NATIONAL PARKS PORTFOLIO

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

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UNITED STATES
DEPARTMENT OF THE INTERIOR
HUBERT WORK, Secretary

NATIONAL PARK SERVICE
STEPHEN T. MATHER, Director

THE NATIONAL PARKS PORTFOLIO

BY

ROBERT STERLING YARD
FORMERLY EDITOR, NATIONAL PARK SERVICE

FIFTH EDITION

REVISED BY

ISABELLE F. STORY
EDITOR, NATIONAL PARK SERVICE

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON
1928

NOTE TO FIFTH EDITION

THE first edition of the National Parks Portfolio, which numbered 275,000 copies, was issued by the Department of the Interior in June, 1916. The second edition, brought up to date by the substitution of later photographs and enlarged by the addition of thirty-six pages, was one of the first publications of the new National Park Service which Congress created August 25, 1916. The third edition, published in 1921, contained twenty-two additional pages of pictures. The fourth edition, issued in 1925, contained information regarding ten new national monuments created after the publication of the third edition, including three new pictures. This, the fifth edition, is a thorough revision of previous issues, both in text and illustrations. In all, ninety-two new pictures have been used. This revision was made necessary by the many changes that have occurred in the national park system during the past twelve years, and by the changing styles, which made obsolete many of the pictures with a human-interest note.

Acknowledgments are due to the many photographers, professional and amateur, who contributed some of the best examples of their work to this Portfolio; to the United States Geological Survey for assistance and hearty cooperation; to many helpful individuals; and to seventeen western railroads, whose contribution of forty-three thousand dollars made possible the preparation and publication of the first edition.

THE EDITOR.

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BOOK BOUND IN CLOTH . . . . . ONE DOLLAR

UNITED STATES
DEPARTMENT OF THE INTERIOR
HUBERT WORK, Secretary

NATIONAL PARK SERVICE
STEPHEN T. MATHER, Director

INTRODUCTION

MAN'S ingenuity has led him into many diverse lines of thought. One of the most remarkable products of his mathematical mind was the discovery of the chronological cycles. These cycles are based on the recurrence of the same astronomical event after the lapse of a regular period of years. They cause us to realize that our universe is laid out according to a definite plan and help establish our faith and respect for the Architect.

The history of the United States has been a human struggle to subdue the wilderness. After a century and a half civilized communities have sprung up on every hand. Great masses of population have congested themselves in cities. We have established an artificial life dependent on the indoors until now to complete the cycle we are turning back to the simpler pleasures found in the woods in contact with nature. There is no action without reaction. With this returning cycle our people are being drawn from the convenience of modern homes, which it has taken so long to design and build, to the more natural surroundings of the outdoors.

Twelve years ago the Federal Government took cognizance of this movement to commune with nature through the creation of the National Park Service in the Department of the Interior, which was placed in complete control of scenic and recreational areas on the public domain and reserved for the benefit of the people. The first step necessary in the development of a national park system was the preservation of the primeval beauty of the parks and monuments and at the same time the provision of accommodations for the hundreds of thousands of visitors. Roads were built to the scenic points of interest and trails were constructed to outlying sections of wilderness without marring the landscape. Hotels and camps were also provided by public operators under contract with the Government. Free public camp grounds were built for the use of the motorists. This program has resulted in a unified park system.

The National Park Service, however, did not confine itself exclusively to providing outdoor recreation for the American people. Its functions became also educational in character. Many of the national parks and monuments are natural laboratories for the study of science. No better examples of glaciation, erosion, and other metaphysical reactions may be found anywhere, and every facility is offered to scientists to obtain knowledge for educational purposes. The flora and fauna are preserved for the biologists and botanists, while the archeologists and ethnologists are enabled to study prehistoric people in the ruined homes and cliff dwellings contained in the national parks and monuments.

Field trips conducted by nature guides competent to explain every subject of natural history along the trailside have been arranged through the education branch of the bureau under the direction of a chief naturalist. Camp-fire lectures on birds, geology, or any other phases of nature exemplified in the parks are also given for the benefit of the visitors. Museums have also been established containing collections of materials of educational interest. Other educational facilities are offered through field courses in the various branches of natural history offered by the Park Service in cooperation with universities and other institutions.

The national parks are playing a prominent rôle in our national life. They are giving the people a glimpse of the simpler things of life and are increasing our appreciation and understanding of nature. They are providing educational opportunities that otherwise would not exist. And finally they are bringing us closer to the scheme of creation and educating our children "through nature up to nature's God."

HUBERT WORK,
Secretary of the Interior.

PRESENTATION

THIS Nation is richer in natural scenery of the first order than any other nation; but it is only recently that our people have begun to realize this fact. In its national parks it owns the most inspiring playgrounds and the best equipped natural schools in the world; and these are an economic asset of incalculable value.

When the first edition of this Portfolio was issued in 1916 comparatively few people were aware that the country possessed this empire of grandeur and beauty; and still fewer realized the economic value of our scenery. Individual features of several of our national parks were known the world over, but few to whom the Yosemite Valley was a household word knew that its seven wonderful miles were a part of a scenic wonderland of eleven hundred square miles called the Yosemite National Park. So with the Yellowstone; all had heard of its geysers, but few indeed of its thirty-three hundred square miles of wilderness beauty. Some of the finest of our national parks pictured in this Portfolio had never been heard of by many. The Sequoia National Park, a hundred miles south of the Yosemite, one of the noblest scenic areas in the world, is the home of thousands of sequoia trees over ten feet in diameter, the celebrated Big Trees of California; but even its name was known to few. Crater Lake National Park, which incloses a marvelous deep blue lake surrounded by walls of fretted lavas of indescribable beauty, was probably one of the least known of all.

In that year, 1916, only 356,097 people visited the national parks. Since then, however, the visiting list has steadily mounted higher and higher, until in the 1927 travel year 2,354,643 visitors saw the national parks. In addition to the park travel the national monuments last year drew 443,197 visitors.

The main object of this Portfolio is to present to the people of our country a panorama of our national parks and national monuments, set aside for study and comparison. Each park will be found highly individual, with distinct characteristics. The whole, taken together, will be a revelation and should draw a still greater number of visitors to these reservations.

To all of our park visitors, and to the American people generally, this Portfolio is dedicated.

STEPHEN T. MATHER,
Director, National Park Service.

JANUARY 4, 1928.

DIFFERENCE BETWEEN A NATIONAL PARK AND A NATIONAL MONUMENT

THE difference between a national park and a national monument is not always easy to define. A national park is created by Congress with the implied purpose of development by appropriations for the public enjoyment. A national monument is proclaimed by the President to conserve some historical structure or landmark, or some restricted area of unusual scientific value.

A national park is supposed to have parklike area, but several are very small. A national monument is supposed to be confined to the object conserved, but several have large areas.

The act of August 25, 1916, creating the National Park Service, and recent appropriations for the development of several national monuments tend to further extinguish differences.

For travel purposes it may be assumed that all national parks within the United States are ready for all visitors, including motorists in their own cars. One can comfortably reach and see many of the national monuments, but it will be safer to make special inquiry in advance of starting.

THE NATIONAL PARKS AT A GLANCE

[Number, 19; total area, 11,817 square miles. Arranged chronologically in the order of their creation]

NATIONAL PARK and Date	LOCATION	AREA in square miles	DISTINCTIVE CHARACTERISTICS
Hot Springs 1832	Middle Arkansas	1½	46 hot springs said to possess healing properties—Many hotels and boarding houses in adjacent city of Hot Springs—Bathhouses under public control.
Yellowstone 1872	North-western Wyoming	3,348	More geysers than in all rest of world together—Boiling springs—Mud volcanoes—Petrified forests—Grand Canyon of the Yellowstone, remarkable for gorgeous coloring—Large lakes and waterfalls—Wilderness inhabited by deer, elk, bison, moose, antelope, bear, mountain sheep, etc.
Yosemite 1890	Middle eastern California	1,125	Valley of world-famed beauty—Lofty cliffs—Romantic vistas—Waterfalls of extraordinary height—3 groves of big trees—Large areas of snowy peaks—Waterwheel falls.
Sequoia 1890	Middle eastern California	604	The Big Tree National Park—Scores of sequoia trees from 20 to 30 feet in diameter, thousands over 10 feet in diameter—Includes Mount Whitney, highest peak in continental United States.
General Grant 1890	Middle California	4	Created to preserve the celebrated General Grant Tree, 40.3 feet in diameter—6 miles from Sequoia National Park.
Mount Rainier 1899	West central Washington	325	Largest accessible single-peak glacier system—28 glaciers, some of large size—48 square miles of glacier, 50 to 1,000 feet thick—Remarkable subalpine wild-flower fields.
Crater Lake 1902	Southern Oregon	249	Lake of extraordinary blue in crater of extinct volcano, no visible inlet or outlet—Sides 1,000 feet high.
Platt 1902	Southern Oklahoma	1⅓	Sulphur and other springs possessing curative properties—Under Government regulation.
Wind Cave 1903	South Dakota	17	Large natural cavern.
Sullys Hill 1904	North Dakota	1 1/5	Wooded hilly tract on Devils Lake.
Mesa Verde 1906	Southern Colorado	77	Most notable and best preserved prehistoric cliff dwellings in United States, if not in the world.
Glacier 1910	North-western Montana	1,534	Rugged mountain region of unsurpassed alpine character—250 glacier-fed lakes of romantic beauty—60 small glaciers—Peaks of unusual shape—Precipices thousands of feet deep—Fine trout fishing.
Rocky Mountain 1915	Northern Colorado	378	Heart of the Rockies—Snowy Range, peaks 11,000 to 14,250 feet altitude—Remarkable records of glacial period.
Hawaii 1916	Hawaii	242	Two active volcanoes, Mauna Loa, largest in the world, and Kilauea, whose lake of bubbling lava is world famed—A third volcano, Haleakala, crater 8 miles wide.
Lassen Volcanic 1916	Northern California	124	Active volcano—Lassen Peak, 10,460 feet in altitude—Cinder Cone, 6,907 feet—Hot springs—Mud geysers.
Mount McKinley 1917	South central Alaska	2,645	Highest mountain in North America—Rises higher above surrounding country than any mountain in the world.
Grand Canyon 1919	Northern Arizona	1,009	Greatest example of stream erosion in the world—More than 10 miles wide—More than 1 mile deep.
Lafayette 1919	Maine Coast	12	Group of granite mountains rising upon Mount Desert Island.
Zion 1919	South-western Utah	120	Magnificent gorge (Zion Canyon), depth from 1,500 to 2,500 feet, with precipitous walls, of great beauty and scenic interest.

THE NATIONAL MONUMENTS AT A GLANCE

Administered by National Park Service, Department of the Interior

[Number, 32; total area, 3,681 square miles, or 2,356,036.81 acres; chronologically in order of creation]

NAME	LOCATION	AREA (acres)	SPECIAL CHARACTERISTICS
Devils Tower	Wyoming	1,152	Remarkable natural rock tower, of volcanic origin, 1,200 feet in height.
Montezuma Castle	Arizona	[1] 160	Prehistoric cliff-dweller ruin of unusual size situated in a niche in face of a vertical cliff. Of scenic and ethnologic interest.
El Morro	New Mexico	240	Enormous sandstone rock eroded in form of a castle, upon which inscriptions have been placed by early Spanish explorers. Contains cliff-dweller ruins. Of great historic, scenic, and ethnologic interest.
Petrified Forest	Arizona	25,625	Abundance of petrified coniferous trees, one of which forms a small natural bridge. Is of great scientific interest.
Chaco Canyon (chä'kō)	New Mexico	[1] 20,629	Numerous cliff-dweller ruins, including communal houses, in good condition. Considerable excavation done at several of the ruins.
Muir Woods [2] (mūr)	California	426.43	One of the most noted redwood groves in California. Was donated by Hon. William Kent, ex-Member of Congress. Located 7 miles from San Francisco.
Pinnacles	California	2,980.26	Many spirelike rock formations, 600 to 1,000 feet high, visible many miles; also numerous caves and other formations.
Natural Bridges	Utah	[1] 2,740	3 natural bridges, among largest examples of their kind. Largest bridge is 222 feet high, 65 feet thick at top of arch; arch is 128 feet wide; span, 261 feet; height of span, 157 feet. Other two slightly smaller.
Lewis and Clark Cavern [2]	Montana	160	Immense limestone cavern of great scientific interest, magnificently decorated with stalactite formations. Now closed to public because of depredations by vandals.
Tumacacori (tū-mä-kä'kō-rē)	Arizona	10	Ruin of Franciscan mission dating from seventeenth century. Being restored by National Park Service as rapidly as funds permit.
Navajo (näv'á-hō)	Arizona	[1] 360	Numerous pueblo, or cliff-dweller, ruins in good preservation.
Shoshone Cavern (shō-shō'-nē)	Wyoming	210	Cavern of considerable extent near Cody.
Gran Quivira (grän kē-vē'rä)	New Mexico	[1] 560	One of the most important of earliest Spanish mission ruins in the Southwest. Monument also contains pueblo ruins.
Sitka	Alaska	[1] 57	Park of great natural beauty and historic interest as scene of massacre of Russians by Indians. Contains 16 totem poles of best native workmanship.
Rainbow Bridge	Utah	160	Unique natural bridge of great scientific interest and symmetry. Height 309 feet above water, and span is 278 feet, in shape of rainbow.
Colorado	Colorado	13,883	Contains many lofty monoliths and is wonderful example of erosion; of great scenic beauty and interest.
Papago Saguaro (pä'pä-gō ság-wä'rō)	Arizona	1,940.43	Splendid collection of characteristic desert flora and numerous pictographs. Interesting rock formations.
Dinosaur (dī'nō-sôr)	Utah	80	Deposits of fossil remains of prehistoric animal life of great scientific interest.
Capulin Mountain (kă-pū'lĭn)	New Mexico	681	Cinder cone of geologically recent formation.
Verendrye (vér-rōn'drē)	North Dakota	253.04	Includes Crowhigh Butte, peculiar mountain formation, from which Explorer Verendrye first beheld territory beyond Missouri River.
Casa Grande [3] (ka'sä grän'dá)	Arizona	472.5	These ruins are one of the most noteworthy relics of a prehistoric age and people within the limits of the United States. Discovered in ruinous condition in 1694.
Katmai (kăt'mī)	Alaska	[1] 1,087,990	Wonderland of great scientific interest in the study of volcanism. Phenomena exist upon a scale of great magnitude. Includes "Valley of Ten Thousand Smokes."
Scotts Bluff	Nebraska	1,893.83	Region of historic and scientific interest. Many famous old trails traversed by the early pioneers in the winning of the West passed over and through this monument.
Yucca House [2] (yŭc'ä)	Colorado	9.6	Located on eastern slope of Sleeping Ute Mountain. Ruins of great archeological value, relic of prehistoric inhabitants.
Fossil Cycad	South Dakota	320	Area containing deposits of plant fossils.
Aztec Ruin [2]	New Mexico	4.6	Prehistoric ruin of pueblo type containing 500 rooms.
Hovenweep	Utah-Colorado	285.8	Four groups of prehistoric towers, pueblos, and cliff dwellings.
Pipe Spring	Arizona	40	Old stone fort and spring of pure water in desert region serves as memorial to early western pioneer life.
Carlsbad Cave	New Mexico	719.22	Limestone caverns of extraordinary proportions and of unusual beauty.
Craters of the Moon	Idaho	24,960	Weird volcanic region containing remarkable fissure eruption, together with its associated volcanic cones, craters, lava flows, caves, natural bridges, and other phenomena.
Wupatki	Arizona	2,234.10	Prehistoric dwellings of ancestors of Hopi Indians.
Glacier Bay	Alaska	1,164,800	Contains tidewater glaciers of first rank.

[1] Estimated. [2] Donated to the United States. [3] From June 22, 1892, until Aug. 3, 1918, classified as a national park.

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Photograph by J. E. Haynes, St. Paul *OLD FAITHFUL*

THE YELLOWSTONE NATIONAL PARK

Photograph by J. E. Haynes, St. Paul

THE GREAT FALLS OF THE YELLOWSTONE, NEARLY TWICE AS HIGH AS NIAGARA

Below these falls the river enters the gorgeously colored Grand Canyon of the Yellowstone

Copyright, 1906, by W. S. Berry

ANTELOPE

THE LAND *of* WONDERS

THE Yellowstone National Park is the largest and most widely celebrated of our national parks. It is a wooded wilderness of thirty-three hundred square miles. It contains more geysers than are found in the rest of the world together. It has innumerable boiling springs whose steam mingles with the clouds.

It has many rushing rivers and large lakes. It has waterfalls of great height and large volume. It has fishing waters unexcelled.

It has canyons of sublimity, one of which presents a spectacle of broken color unequaled. It has areas of petrified forests with trunks standing. It has innumerable wild animals which have ceased unduly to fear man; in fact, it is unique as a bird and animal sanctuary.

It has several great hotels and lodges, and also many free public automobile camp grounds. It has two hundred miles of excellent roads.

In short, it is not only the wonderland that common report describes; it is also the fitting playground and pleasure resort of a great people; it is also the ideal summer school of nature study.

Photograph by George R. King

THE UPPER FALLS OF THE YELLOWSTONE, A FEW MILES BELOW YELLOWSTONE LAKE

Above these falls the rushing river lies nearly level with surrounding country; below begin the canyons

Copyright by J. E. Haynes, St. Paul

RAPIDS ABOVE UPPER FALLS

THREEFOLD PERSONALITY

THE Yellowstone is associated in the public mind with geysers only. Thousands even of those who, watches in hand, have hustled from sight to sight over the usual stage schedules, bring home vivid impressions of little else.

There never was a greater mistake. Were there no geysers, the Yellowstone watershed alone, with its glowing canyon, would be worth the national park. Were there also no canyon, the scenic wilderness and its incomparable wealth of wild-animal life would be worth the national park.

The personality of the Yellowstone is threefold. The hot-water manifestations are worth minute examination, the canyon a contemplative visit, the park a summer. Dunraven Pass, Mount Washburn, the canyon at Tower Falls, Shoshone Lake, Sylvan Pass—these are known to very few indeed. See all or you have not seen the Yellowstone.

Photograph by J. E. Haynes, St. Paul

CRESTED POOL, ONE OF THE INNUMERABLE HOT SPRINGS

These springs, whose marvelously clear water is a deep blue, have an astonishing depth

Photograph by Edward S. Curtis

THE CARVED AND FRETTED TERRACES AT MAMMOTH HOT SPRINGS

These great white hills, deposited and built up by the hot waters, sometimes envelope forest trees

Photograph by J. E. Haynes, St. Paul

THE GIANT GEYSER, IN MANY RESPECTS THE GREATEST OF ALL

It spouts for an hour at a time, the water reaching a height of 250 feet. Interval, six to fourteen days

Copyright by J. E. Haynes, St. Paul

THE NORRIS GEYSER BASIN

GEYSERS SPOUT AND STEAMING VAPORS RISE

THE first view of the geyser basins affords a sensation never to be forgotten. Early explorers imagined they smelled brimstone. Early lecturers were hissed and sometimes even stoned in the streets as imposters. Certainly the imaginative beholder acquires thrills he never before experienced.

There are more than forty geysers accessible in the three large basins on the west side. Some spout every few seconds, some every few minutes, others at intervals of hours or days, a few at irregular intervals of weeks. The eruptions vary from several feet to two hundred and fifty feet.

But the whole region bubbles and hisses and steams.

Photograph by J. E. Haynes, St. Paul

THE SPECTACULAR FOUNTAIN GEYSER, SELDOM IN ERUPTION

Photograph by J. E. Haynes, St. Paul

THE LIVELY RIVERSIDE GEYSER WHICH PLAYS EVERY FEW HOURS

Photograph by J. E. Haynes, St. Paul

ELECTRIC PEAK, A SUPERB LANDMARK OF THE NORTH SIDE

MANY-COLORED CANYON

FROM Inspiration Point, looking a thousand feet almost vertically down upon the foaming Yellowstone River, and southward three miles to the Great Falls, the hushed observer sees spread before him the most glorious kaleidoscope of color he will ever see in nature. The steep slopes are inconceivably carved by the frost and the erosion of the ages. Sometimes they lie in straight lines at easy angles, from which jut high rocky prominences. Sometimes they seem carved from the side walls. Here and there jagged rocky needles rise perpendicularly like groups of gothic spires.

And the whole is colored as brokenly and vividly as the field of a kaleidoscope. The whole is streaked and spotted in every shade from the deepest orange to the faintest lemon, from deep crimson through all the brick shades to the softest pink, from black through all the grays and pearls to glistening white. The greens are furnished by the dark pines above, the lighter shades of growth caught here and there in soft masses on the gentler slopes and the foaming green of the plunging river so far below. The blues, ever changing, are found in the dome of the sky overhead.

Copyright by Haynes, St. Paul

SYLVAN LAKE, BELOW SYLVAN PASS, CODY ROAD

Copyright by Gifford

VIEW FROM MOUNT WASHBURN SHOWING YELLOWSTONE LAKE IN DISTANCE

The northern east side is a country of striking and romantic scenery made accessible by excellent roads

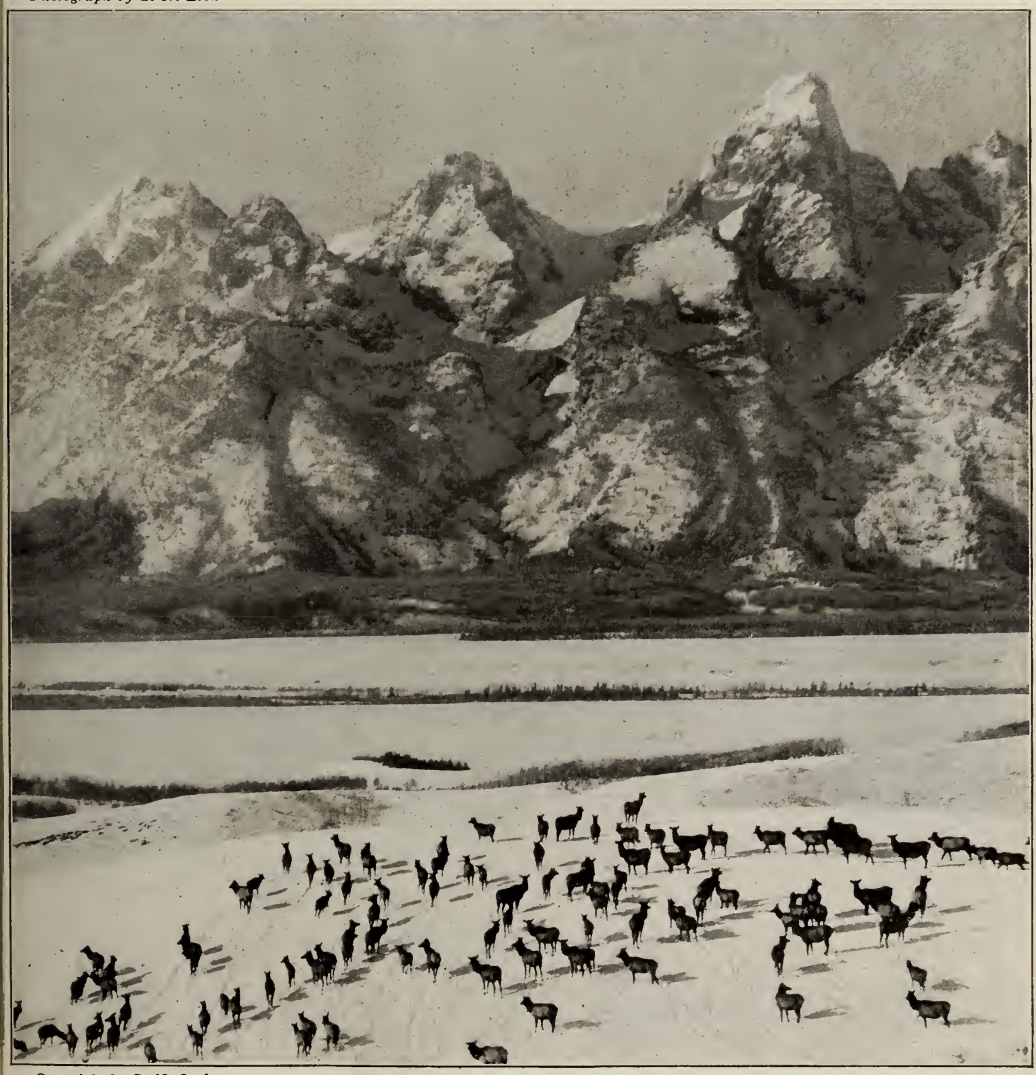
Photograph by J. E. Haynes

THE HOLY CITY FROM THE CODY ROAD, EASTERN ENTRANCE

Photograph by J. E. Haynes

ENTERING YELLOWSTONE FROM THE SOUTH—LEWIS FALLS

Photograph by S. N. Leek



Copyright by S. N. Leek

THE SOUTH ENTRANCE IS NEAR THE LORDLY TETON RANGE, JUST OVER THE BOUNDARY

Copyright by J. E. Haynes, St. Paul

STANDING UPON ARTIST POINT, WHICH PUSHES OUT ALMOST OVER THE FOAMI THOUSAND FEET BELOW, THE INCOMPARABLE CANYON OF THE YELLOWSTONE WIDENS BEFORE YOU INTO THE MOST GLORIOUS OF COLOR YOU WILL EVER SEE IN NATURE

Copyright by S. N. Leek

SEVENTEEN THOUSAND ELK ROAM THIS SANCTUARY WILDERNESS

Photograph by Albert Schlechien

IT IS THE NATURAL HOME OF THE CELEBRATED BIGHORN, THE ROCKY-MOUNTAIN SH

Photograph by G. Swanson

Deer Make Unexpected Silhouettes at Frequent Intervals

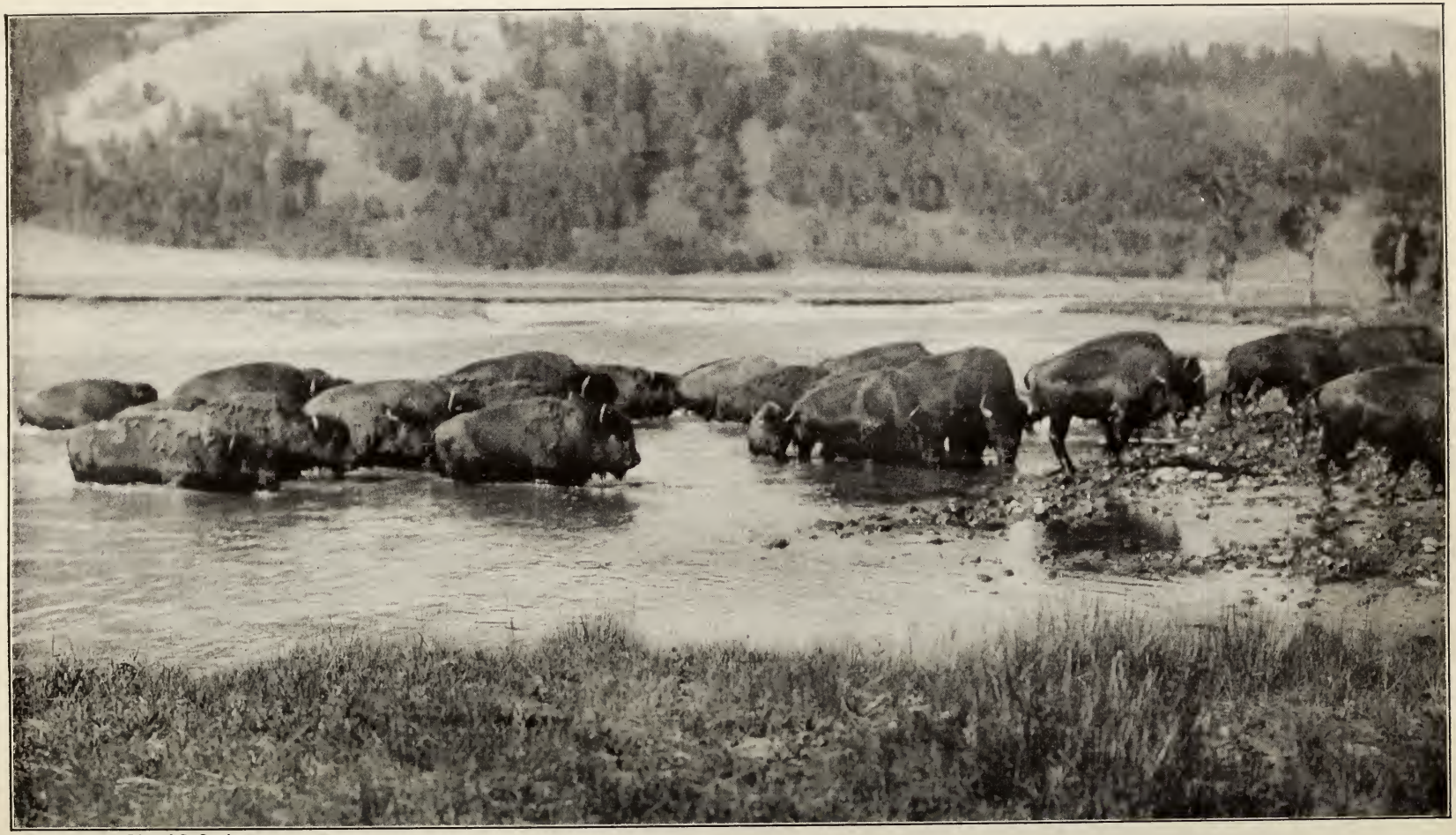
GREATEST ANIMAL REFUGE

THE Yellowstone National Park is by far the largest and most successful wild-animal preserve in the world. Since it was established in 1872 hunting has been strictly prohibited, and elk, bear, deer of several kinds, antelope, bison, moose, and bighorn mountain heep roam the valleys and mountains in large numbers. Seventeen thousand lk, for instance, live in the park. Antelope, nearly extinct elsewhere, here bound.

These animals have long since ceased to fear man as wild animals do everywhere except in our national parks. While few tourists see them who follow he beaten roads in the everlasting sequence of stages, those who linger in the lorious wilderness see them in an abundance that fairly astonishes.

Photograph by S. N. Leek

In Winter When the Snows Are Deep Park Rangers Leave Hay in Convenient Spots



Photograph by Edward S. Curtis

THERE ARE TWO PROSPEROUS HERDS OF BISON, OR BUFFALO, BOTH INCREASING RAPIDLY. THE WILD HERD IS A REMNANT OF THE [illegible] OF THE PLAINS, WHICH WERE DRIVEN BACK BY HUNTERS AND SOUGHT REFUGE IN THE MOUNTAINS

Photograph by Edward S. Curtis

UNLIKE THE GRIZZLY, THE BROWN BEAR CLIMBS TREES QUICKLY AND EASILY

VERY different, indeed, from the beasts of the after-dinner story and the literature of adventure are the wild animals of the Yellowstone. Never shot at, never pursued, they are comparatively as fearless as song-birds nestling in the homestead trees.

Wilderness bears cross the trail without haste a few yards ahead of the litary passer-by, and his accustomed horses jog on undisturbed. Deer by ores lift their antlered heads above near thickets to watch his passing. Elk arcely slow their cropping of forest grasses. Even the occasional moose, raying far from his southern wilderness, scarcely quickens his long lope. erds of antelope on near-by hills watch but hold their own.

Only the grizzly and the mountain sheep, besides the predatory beasts, still de in the fastnesses. But even the mountain sheep loses fear and joins the hers in winters of heavy snow when park rangers scatter hay by the roadside.

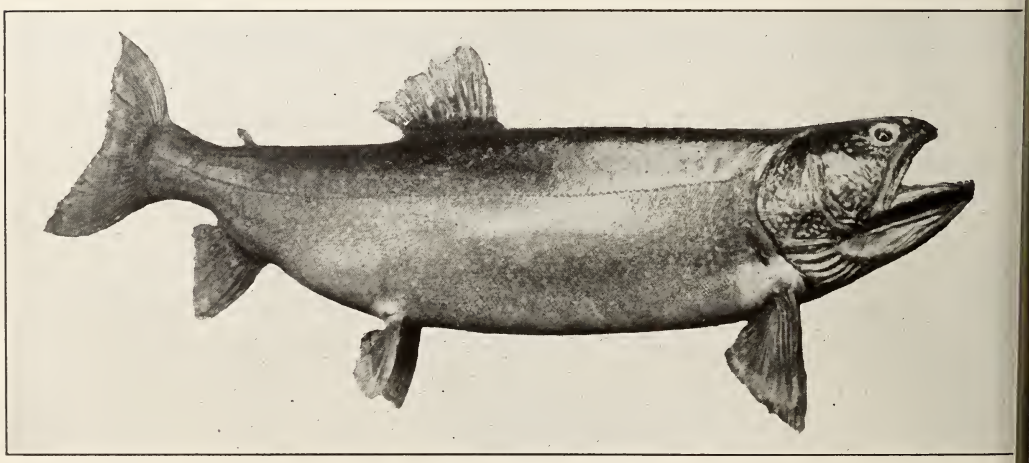
Photograph by S. N. Leek

THE PARADISE OF ANGLERS

THE Yellowstone is a land of splendid rivers. Three watersheds find their beginnings within its borders. From Yellowstone Lake flows north the rushing Yellowstone River with its many tributaries; from Shoshone, Lewis, and Heart Lakes flows south the Snake River; and in the western slopes rise the Madison and its many tributaries. All are trout waters of high degree.

The native trout of this region is the famous cutthroat. The grayling is native in the Madison River and its tributaries. Others have been planted.

Besides the stream fishing, which is unsurpassed, the lakes, particularly Shoshone Lake and certain small ones, afford admirable sport.



Photograph by J. E. Haynes, St. Paul

A Big Lake Trout from Shoshone Lake

The game cutthroat is the commonest trout in the Yellowstone, but there are six othe varieties

Photograph by J. E. Haynes, St. Paul

CUTTHROATS FROM ONE TO THREE OR FOUR POUNDS ARE TAKEN IN LARGE NUMBERS AT THE YELLOWSTONE LAKE OUTLET

Copyright by Gifford

YOUNG PELICANS ON MOLLY ISLAND IN YELLOWSTONE LAKE

he Yellowstone pelicans are very large and pure white, a picturesque feature of the park

Copyright by J. E. Haynes

PARTY BEING CONDUCTED OVER MAMMOTH HOT SPRINGS FORMATIONS

Copyright by J. E. Haynes

PUBLIC AUTOMOBILE CAMP AT MAMMOTH

Copyright by J. E. Haynes

GRAND CANYON LODGE, MAIN BUILDING

LIVING *in the* YELLOWSTONE

THE park has entrances on all four sides. All have railroad connections; the southern entrance, by way of Jackson Hole and past the jagged snowy Tetons, has three approach roads. The roads from all entrances enter a central belt road which makes a large ...it connecting places of special interest.

Four large hotels are located at points convenient for seeing the sights and ...re supplemented by lodges at modest prices.

But the day of the unhurried visitor has dawned. If you want to enjoy ...our Yellowstone, if, indeed, you want even to *see* it, you should make your ...inimum twice five days; two weeks is better; a month is ideal.

Spend the additional time at the canyon and on the trails. See the lake ...nd the pelicans. Fish in Shoshone Lake. Climb Mount Washburn. Spend a ...ay at Tower Falls. See Mammoth Hot Springs. Hunt wild animals with a ...amera. Stay with the wilderness and it will repay you a thousandfold. Fish ... little, study nature in her myriad wealth—and live.

The Yellowstone National Park is ideal for camping out. When people ...ealize this it should quickly become one of the most lived in, as it already ...s one of the most livable, of all our national parks.

Copyright by J. E. Haynes, St. Paul

OLD FAITHFUL INN

Copyright by J. E. Haynes, St. Paul

GRAND CANYON HOTEL

Photograph by J. E. Haynes, St. Paul

THE LAKE HOTEL

THREE OF THE FOUR LARGE HOTELS IN THE YELLOWSTONE NATIONAL PARK

YOSEMITE

Photograph by A. C. Pillsbury

THE HIGHEST WATERFALL IN THE WORLD—THE YOSEMITE FALLS

The Upper Fall measures 1,430 feet, as high as nine Niagaras. The Lower Fall measures 320 feet
The total drop from crest to river, including intermediate cascades, is almost half a mile

Photograph by U. S. Reclamation Service

THE YOSEMITE VALLEY FROM INSPIRATION POINT, SHOWING BRIDALVEIL FALLS

LAND *of* ENCHANTMENT

WHO does not know of the Yosemite Valley? And yet, how few have heard of the Yosemite National Park! How few know that this world-famous, incomparable valley is merely a crack seven miles long in a scenic masterpiece of eleven hundred square miles!

John Muir loved the valley and crystallized its fame in phrase.

But still more he loved the national park, which he describes as including "innumerable lakes and waterfalls and smooth silky lawns; the noblest forests, the loftiest granite domes, the deepest ice-sculptured canyons, the brightest crystalline pavements, and snowy mountains soaring into the sky twelve and thirteen thousand feet, arrayed in open ranks and spiry pinnacled groups partially separated by tremendous canyons and amphitheaters; gardens on their sunny brows, avalanches thundering down their long white slopes, cataracts roaring gray and foaming in the crooked rugged gorges, and glaciers in their shadowy recesses working in silence, slowly completing their sculptures; newborn lakes at their feet, blue and green, free or encumbered with drifting icebergs like miniature Arctic Oceans, shining, sparkling, calm as stars."

THE YOSEMITE VALLEY FROM GLACIER POINT

The Upper and Lower Yosemite Falls are here shown in partial profile

Photograph by J. T. Boysen

HALF DOME, FROM NEAR WASHINGTON COLUMN

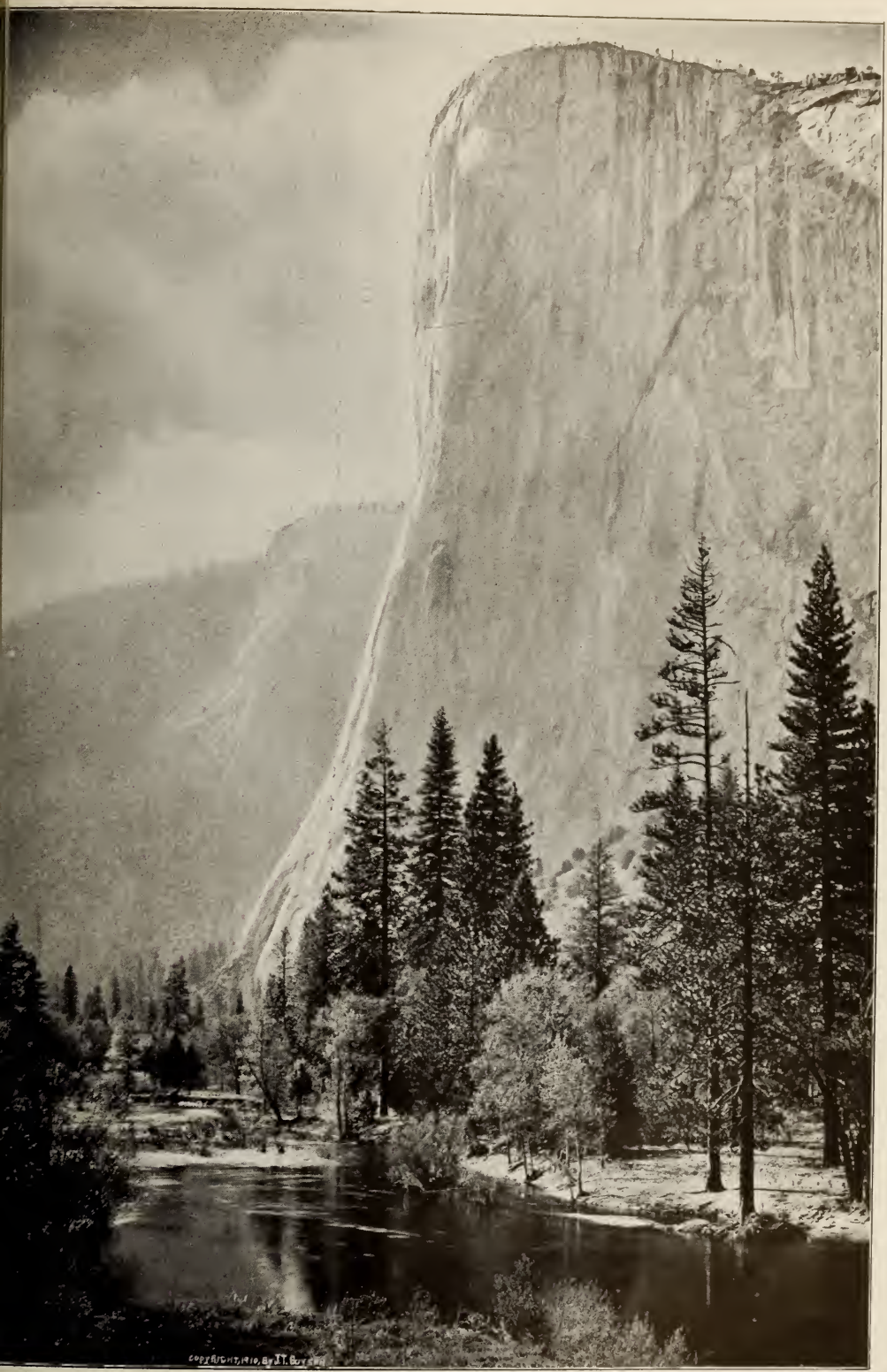
Its summit is 4,892 feet above the floor of the valley

Photograph by A. C. Pillsbury

THE SHEER IMMENSITY OF THE PRECIPICES ON EITHER SIDE THE VALLEY'S PEACEFUL ROMANTIC MAJESTY OF THE GRANITE WALLS, AND THE UNREAL, ALMOST FAIRYLIKE QUALITY OF THE EVERGLADE, ATTEST IT INCOMPARABLE

EARLY MORNING BESIDE MIRROR LAKE

This lake is famous for its reflections of the cliffs. Mount Watkins in the backgroun

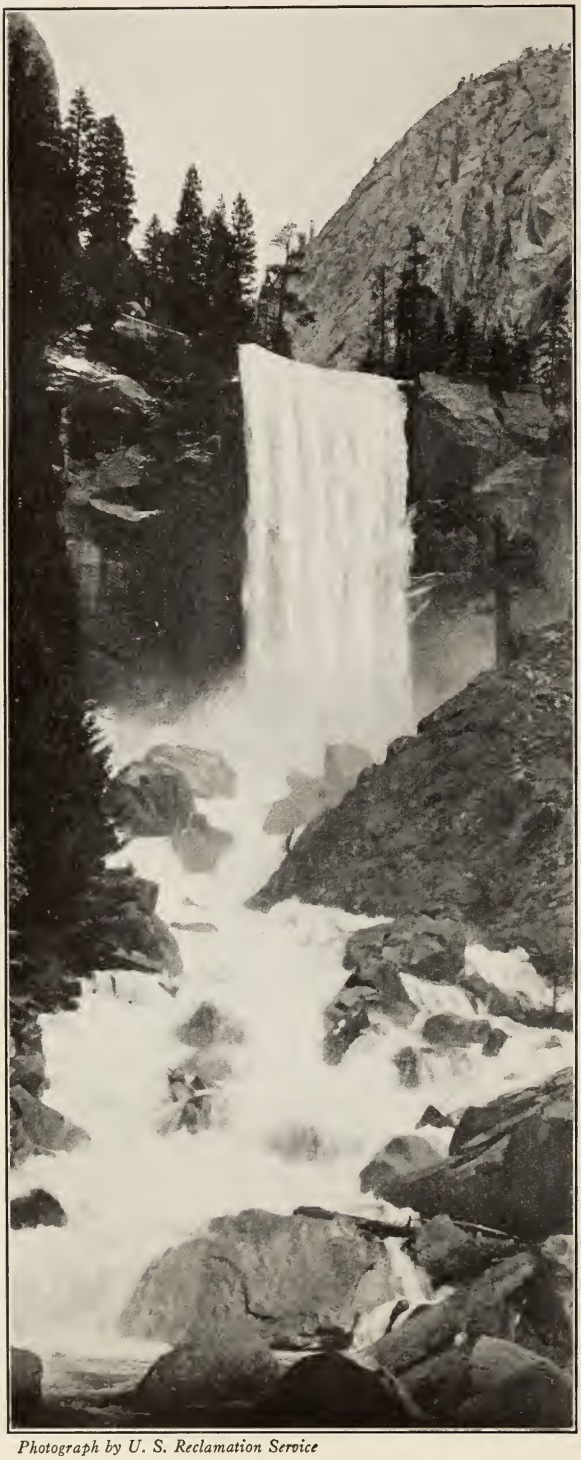


pyrighted, 1910, by J. T. Boysen

El Capitan at Sunset

This gigantic rock, whose hard granite resisted the glacier, rises 3,604 feet from the valley floor

THE VALLEY INCOMPARABLE



Photograph by U. S. Reclamation Service

BEAUTIFUL VERNAL FALLS

THE first view of most spots of unusual celebrity often falls short of expectation, but this is seldom, if ever, true of the Yosemite Valley. The sheer immensity of the precipices on either side of the peaceful floor; the loftiness and the romantic suggestion of the numerous waterfalls; the majesty of the granite walls; and the unreal, almost fairy quality of the ever-varying whole cannot be successfully foretold.

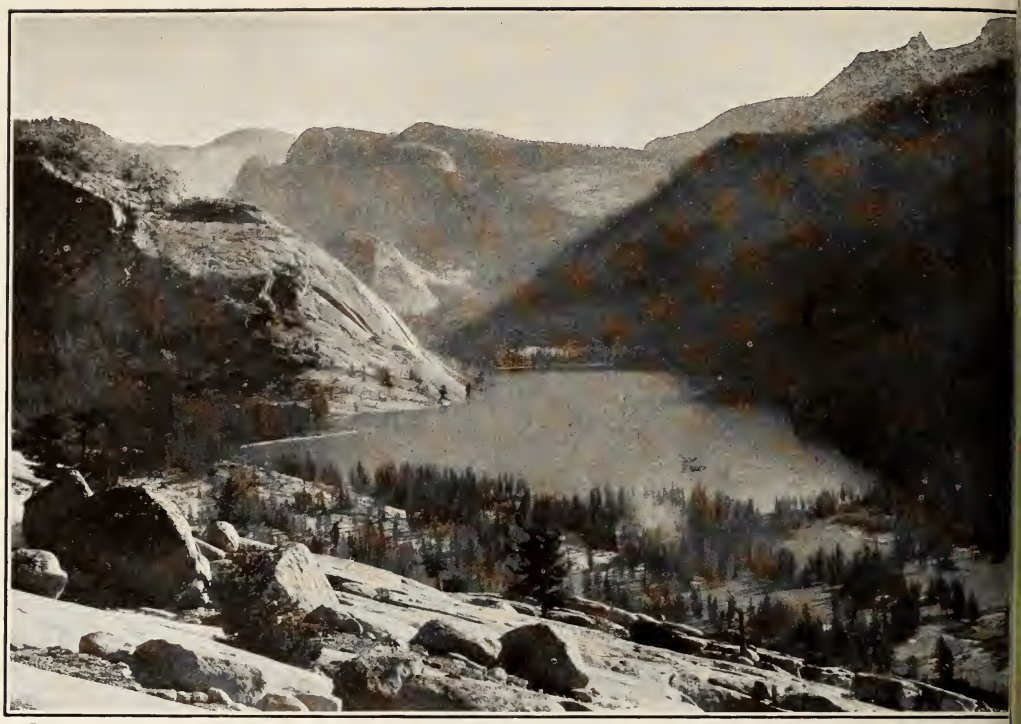
This valley was once a tortuous river canyon. So rapidly was it cut by the Merced that the tributary valleys soon remained hanging high on either side. Then the canyon became the bed of a great glacier. It was widened as well as deepened and the hanging character of the side valleys was accentuated.

This explains the enormous height of the waterfalls.

The Yosemite Falls, for instance, drops 1,430 feet in one sheer fall, a height equal to nine Niagara Falls piled one on top of the other. The Lower Yosemite Fall, immediately below, has a drop of 320 feet or two Niagaras more. Vernal Falls has the same height. The Nevada Falls drops 594 feet sheer, and the celebrated Bridal veil Falls 620 feet. Nowhere else in the world may be had water spectacle such as this.

Photograph by H. C. Tibbitts

Its Name Is Self-Evident—The Bridalveil Falls



Photograph by H. C. Tibbitts

TENAYA LAKE

A STRIKING VIEW OF NEVADA FALLS, LIBERTY CAP ON LEFT

Photograph by A. C. Pillsbury

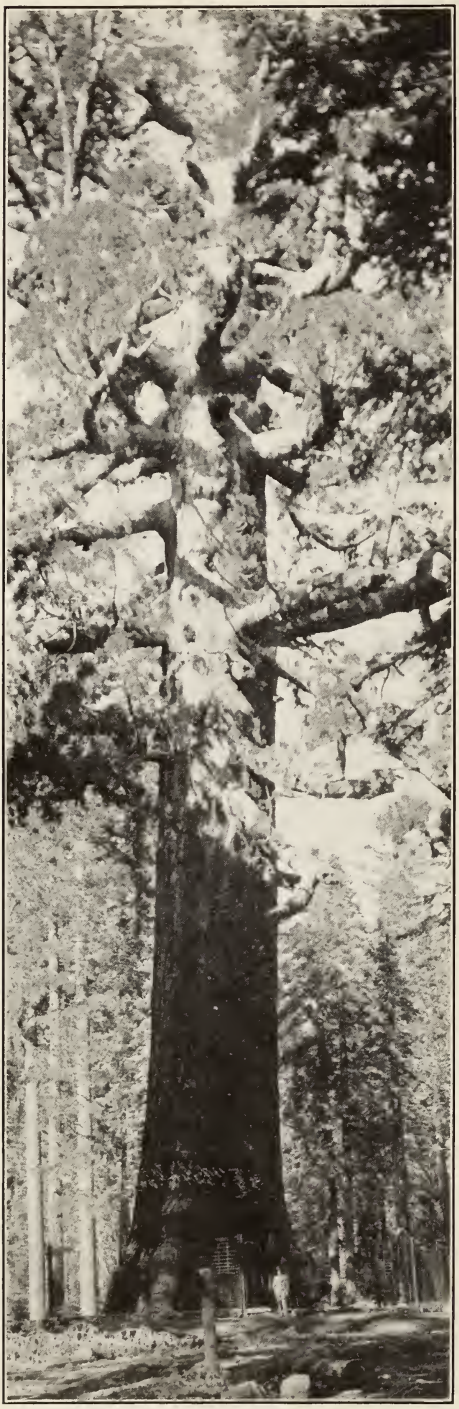
VERNAL AND NEVADA FALLS AND HALF DOME FROM THE GLACIER POINT TRAIL

Photograph by J. V. Lloyd

THE NEW AHWAHNEE HOTEL

Opened for service July 16, 1927

CHARM OF THE SCENIC WILD



Photograph by U. S. Reclamation Service

THE GRIZZLY GIANT, THE BIGGEST YOSEMITE SEQUOIA

SUMMER in the Yosemite is unreal. The valley, with its foaming falls dissolving into mists, its calm forests hiding the singing river, its enormous granites peaked and domed against the sky, its sound of distant waters, is a thing of beauty. One has a sense of fairyland and the awe of infinity.

Imagine Cathedral Rocks rising twenty-six hundred feet above the wild flowers, El Capitan thirty-six hundred feet, Sentinel Dome four thousand feet Half Dome five thousand feet, and Clouds Rest six thousand feet! And among them, the waterfalls!

Even the weather appears impossible the summers are warm, but not to warm; dry, but not too dry; the night cold and marvelously starry.

A few miles away are the Big Trees not the greatest groves nor the greates trees, for those are in the Sequoia Na tional Park, a hundred miles south, bu three groves containing monsters whicl next to Sequoia's, are the hugest and th oldest living things. Of these the Grizz Giant is king—whose diameter is near thirty feet, whose girth is over ninet nine, and whose height is more than tw hundred. Their presence commands th silence due to worship.

Winter has become a feature in th life of the valley. Hotels are open accommodate an increasing flow of v itors. The falls are still and frozen, t trees laden with snowy burdens. T greens have vanished; the winter s shines upon a glory of gray and whit

Winter sports are now very popu on the floor of the valley.

Photograph by J. V. Lloyd

ON THE TOBOGGAN

Winter sports are rapidly becoming popular on the floor of the valley

Photograph by J. V. Lloyd

WINTER SPORTS

LIVING IN THE WILDERNESS

Copyrighted, 1910, by J. T. Boysen

WHO'S COMING?

Copyrighted, 1910, by J. T. Boysen

WOOF!

LIVING is comfortable in the Yosemite. A luxurious new hotel, the Ahwahnee, was completed in 1927 to care for both summer and winter visitors, and lodges offer excellent summer accommodations at more reasonable rates. Above the valley are lodges and camps at convenient intervals on road and trail. There is also a hotel on Glacier Point, overlooking the valley.

The Yosemite is an excellent place to camp out. One may have choice of many kinds of mountain country. Nearly everywhere the trout fishing is exceptionally fine. Camping outfits may be rented and supplies purchased in the valley. Garages for motorists and resthouses for hikers are located at convenient intervals. A number of free public automobile camp grounds have been made available by the Government.

A new all-year road into Yosemite Valley was opened to the public during the summer of 1927.

TIOGA ROAD

ABOVE the north rim of the valley the old Tioga Road, which the Department of the Interior acquired in 1915 and put into good condition, crosses the park from east to west, affording a new route across the Sierra and opening to the public for the first time the magnificent scenic region in the north.

The Tioga Road was built in 1881 to a mine soon after abandoned. For years it has been impassable. It is now the gateway to a wilderness heretofore accessible only to campers.

NORTH OF THE VALLEY'S RIM

BEFORE the restored Tioga Road made accessible the magnificent mountain and valley area constituting the northern half of the Yosemite National Park, this pleasure paradise was known to none except a few enthusiasts who penetrated its wilderness year after year with camping outfits. Motorists making the trip from the valley to Lake Tahoe now pass through this area.

It is the region of rivers and lakes and granite domes and brilliantly polished glacial pavements. The mark of the glacier may be plainly traced on every hand.

It is the region of small glaciers, remnants of a gigantic past, of which there are several in the park. It is the region of rock-bordered glacier lakes of which there are more than two hundred and fifty. It is the region, above all, of small, rushing rivers and of the roaring, foaming, twisting Tuolumne, second only to the Merced.

From the base of the Sierra crest, born of its snows, the Tuolumne River rushes westward roughly paralleling the Tioga Road. Midway it slants sharply down into the Tuolumne Canyon, forming in its mad course a water spectacle destined some day to world fame.

Photograph by George Stone

TIOGA ROAD SCENERY

Photograph by H. C. Tibbitts

South of the Valley's Rim. On the Right May Be Seen the Back of Sentinel Dome; on the Left the Back of Half Dome

Photograph by H. C. Tibbitts

THE CELEBRATED TUOLUMNE MEADOWS, FROM THE TIOGA ROAD NEAR SODA SPRINGS, SHOWING CATHEDRAL PEAK

Photograph by W. L. Huber

THE HIGH SIERRA: VIEW OF MOUNT RITTER FROM KUNA CREST

Photograph by Herbert W. Gleason

BEAUTIFUL ROGERS LAKE AND REGULATION PEAK IN THE NORTHERN PART OF THE PARI

Photograph by J. V. Lloyd

FISHING IN THE MERCED RIVER

Photograph by C. O. Schneider

A BEDCHAMBER IN YOSEMITE

Travelers on the trails carry no tents because it does not rain. A sleeping-bag, a pine-needle mattress, a sheltered grove, and a ceiling of green leaves amply suffice

Photograph by A. C. Pillsbury

A Close View of the Big Waterwheel, Tuolumne Canyon

Photograph by W. L. Huber

The Waterwheel Below California Falls

MAD WATERS *of* TUOLUMNE

AN excellent trail leads from the Tioga Road down the Grand Canyon of the Tuolumne, famous for its leaping waters.

Here the river, slanting sharply, becomes, in John Muir's phrase, "one wild, exulting, onrushing mass of snowy purple bloom spreading over glacial waves of granite without any definite channel, gliding in magnificent silver plumes, dashing and foaming through huge bowlder dams, leaping high in the air in wheellike whirls, displaying glorious enthusiasm, tossing from side to side, doubling, glinting, singing in exuberance of mountain energy."

Photograph by A. C. Pillsbury

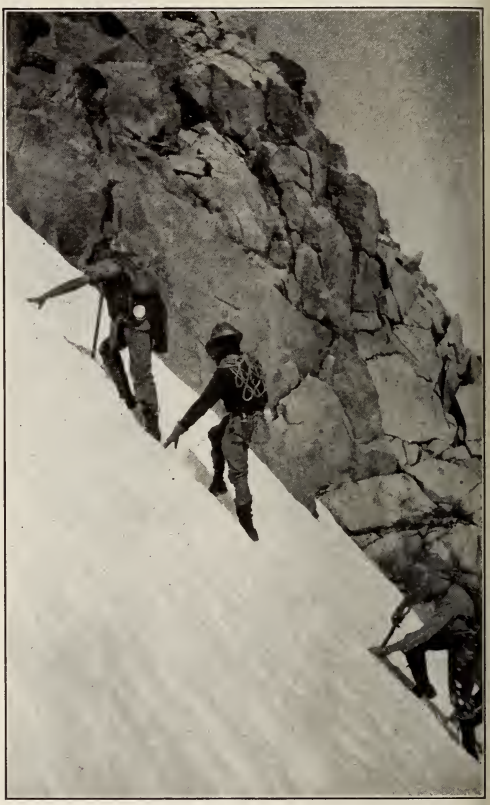
A Pair of Tuolumne Waterwheels

THE EVERLASTING SNOWS

SUMMITS of perpetual snow are, for most Americans, a new association with Yosemite. But the region's very origin was that Sierra whose crest peaks on the park's eastern boundary still shelter in shrunken old age the once all-powerful glaciers.

Excelsior, Conness, Dana, Kuna, Blacktop, Lyell, Long—from the companionship of these great peaks descended the ice-pack of old and descend to-day the sparkling waters of the Tuolumne and the Merced.

From their great summits the climber beholds a sublime wilderness of crowded, towering mountains, a contrast to the silent, uplifting valley as striking as mind can conceive. Everlasting snows fill the hollows between the peaks and spatter their jagged granite sides. The glaciers feed innumerable small lakes.



Photograph by W. L. Huber

ASCENDING MOUNT LYELL

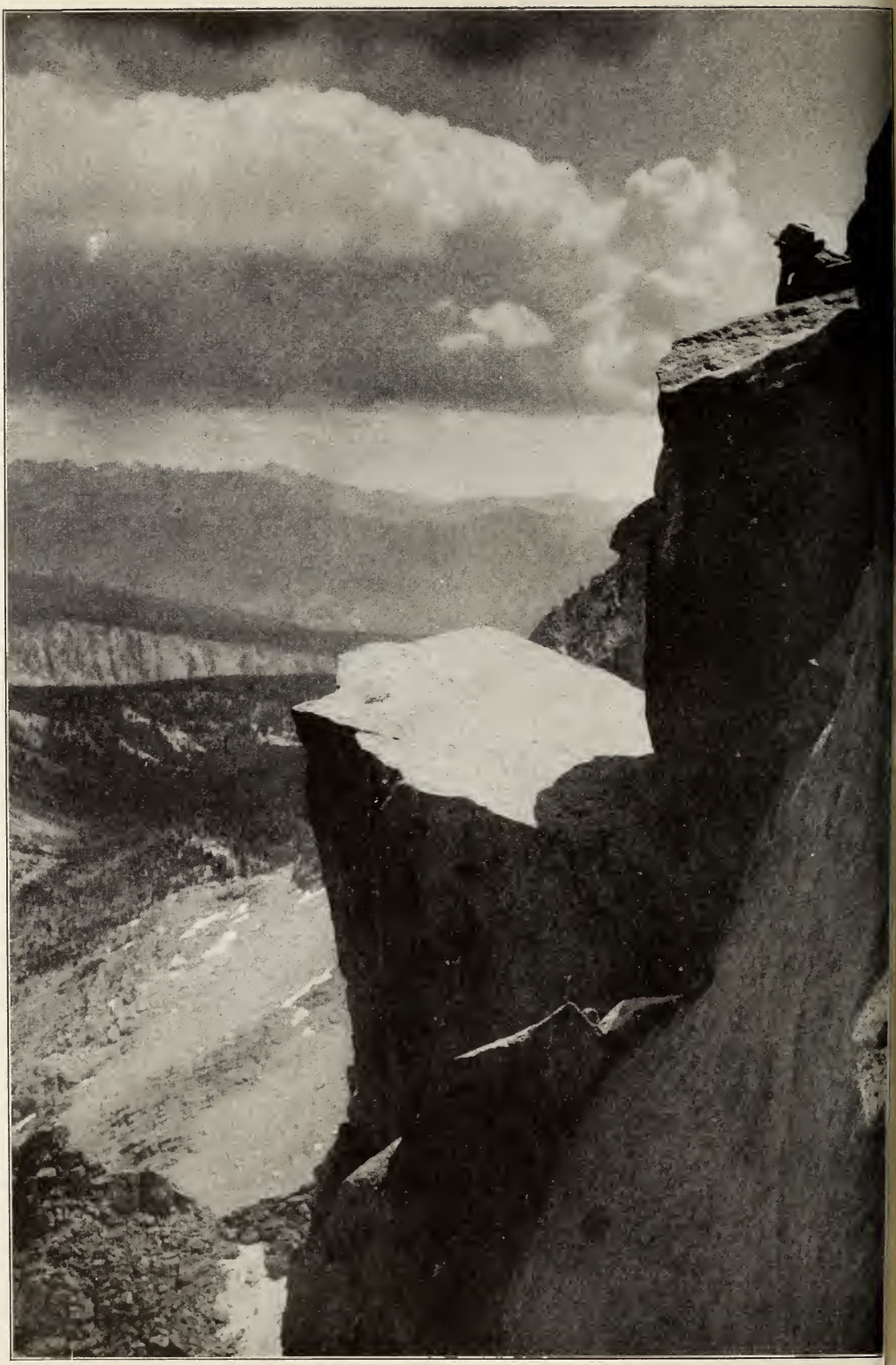
Photograph by J. V. Lloyd

HALF DOME IN WINTER

THE SEQUOIA NATIONAL PARK

Photograph by Lindley Eddy

NATURE GUIDE PARTY AT CONGRESS GROUP OF BIG TREES IN GIANT FOREST



Photograph by Rodney L. Glisan

View of the Big Arroyo from Sawtooth Peak

Photograph by U. S. Geological Survey

It Is the Ideal Park for Camping

LAND OF GIANT TREES

NATURE'S forest masterpiece is John Muir's designation of the giant tree after which is named the Sequoia National Park in middle eastern California. Here are found several large groves of the celebrated *Sequoia gigantea*, popularly known and widely celebrated as the Big Tree of California.

More than a million of these trees grow within the park's narrow confines, many of them mere babes of a few hundred years, many sturdy youths of a thousand years, many in the young vigor of two or three thousand years, and a few in full maturity. The principal entrances are Visalia and Exeter, California.

Half a dozen miles away is the General Grant National Park, whose four square miles were set apart because they contained a magnificent grove of Big Trees, including the General Grant Tree, second only in size and age to the patriarch of all, the General Sherman.

On Sequoia's favored slopes grow other mammoth conifers. The sugar pine, yellow pine, and red and white firs attain a size which would distinguish them were they not in the company of the Big Trees.

Sequoia is also the park of birds, and many interesting species are found here.

THE BIGGEST THING ALIVE

Photograph by Lindley Eddy

THE GENERAL SHERMAN TREE

Probably the largest and oldest living thing in all the world

OF the thousands, perhaps millions, of sequoia trees, old and young, twelve thousand exceed ten feet in diameter. Muir states that a diameter of twenty feet and a height of two hundred and seventy-five is perhaps the average for mature and favorably situated trees, while trees twenty-five feet in diameter and approaching three hundred in height are not rare.

But the greatest trees have these astonishing dimensions:

General Sherman: Height 273.9 feet; base diameter, 37. feet; diameter above bulge, 22. feet.

General Grant: Height, 266. feet; base diameter, 40.3 fee diameter above bulge, 21.7 fee

Abraham Lincoln: Diamete 31 feet; height, 270 feet.

California: Diameter, 30 fee height, 260 feet.

George Washington: Dian eter, 29 feet; height, 255 feet.

A little effort will help yo realize these dimensions. Mea ure and stake in front of church the diameter of t General Sherman Tree. Th stand back a distance equal the tree's height. Raise yo eyes slowly and imagine th huge trunk rising in front of t church. When you reach point in the sky forty-five d grees up from the spot on whi you stand, you will have t tree's height were it growing front of your church.

THE OLDEST THING ALIVE

THE General Sherman Tree is perhaps the oldest living thing. At the birth of Moses it was probably a sapling. Its exact age can not be determined without counting the rings, but it is probably in excess of thirty-five hundred years and may be over five thousand years. When Christ was born, it was a lusty youth of at least fifteen hundred summers.

There are many thousands of trees in the Sequoia National Park which were growing thriftily when Christ was born; hundreds which were flourishing while Babylon was in its prime; several which antedated the pyramids on the Egyptian desert.

John Muir counted four thousand rings on one prostrate giant. This tree probably sprouted while the Tower of Babel was still standing.

The sequoia is regular and symmetrical in general form. Its powerful, stately trunk is purplish to cinnamon brown and rises without a branch a hundred or a hundred and fifty feet—which is as high or higher than the tops of most forest trees. Its bulky limbs shoot boldly out on every side. Its foliage, the most feathery and delicate of all the conifers, is densely massed.

The wood is almost indestructible except by fire.

Photograph by W. L. Huber

THE GENERAL GRANT TREE

Second in size and age to the General Sherman Tree

Photograph by George F. Belden

"Deep in the Woody Wilderness"

WILDERNESS OF GIANTS

PERSONS who have been in the Mariposa Grove in the Yosemite National Park have seen Big Trees of the noblest type; but only in the Giant Forest of the Sequoia National Park will they see them in the impressive glory of massed multitude and wildest grandeur. To walk and wonder through these woods, even for a few hours, is to feel an emotion which can be duplicated nowhere else.

It is not the Big Trees alone, as in the Mariposa Grove, that stir the soul, but the bewildering and climatic repetition of giants rising singly or superbly grouped from a dense and seemingly endless forest of noble growths of many other kinds.

Without the sequoias this forest would be notable. With their constant unexpected repetition the effect is dramatic, even breath-taking. Many of the largest trees are casually met as the visitor winds through the aisles of pine, and their sudden appearance is the more dramatic because of the freedom of their red pillared stems from the bright green flowing moss upon the trunks and branches of the uncountable pines.

Until July, 1916, when Congress appropriated $50,000 for the purchase of a part of the private holdings in the Giant Forest, it was our national misfortune and peril that most of these mammoth trees remained the property of individuals. The balance of the property was purchased for $20,000 by the National Geographic Society and donated to the United States.

Photograph by Lindley Eddy

VISTAS OF THE GIANT FOREST

Many of these trees were growing thriftily when Christ was born

Photograph by Lindley Eddy

ALTA PEAK FROM MORO ROCK

Photograph by H. C. Tibbitts

ALTA MEADOWS NEAR THE GIANT FOREST

Photograph by Lindley Eddy

SUNSET FROM THE RIM OF MARBLE FORK CANYON

Photograph by Lindley Eddy

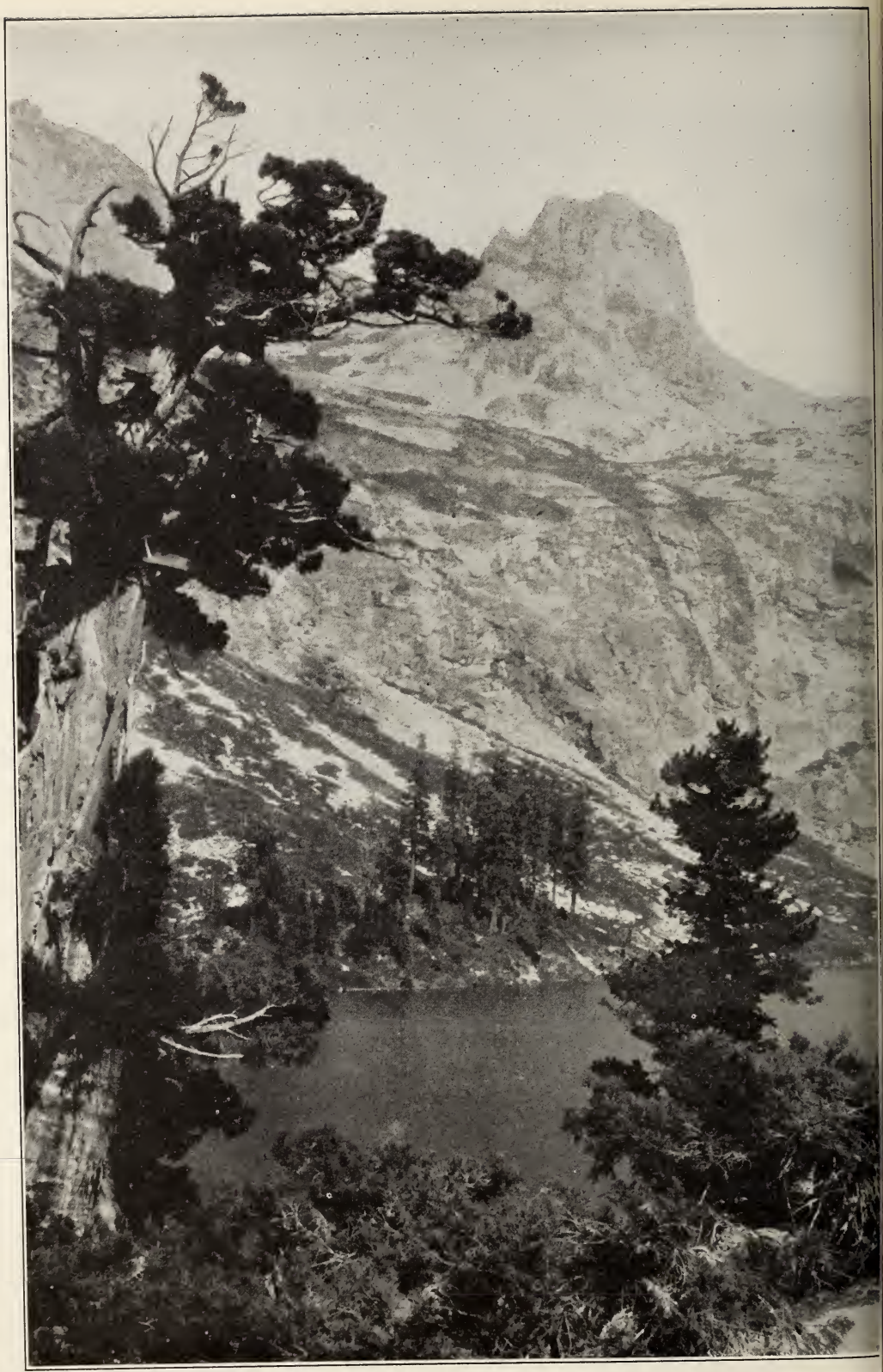
JUDGE WALTER FRY FEEDING DEER IN GIANT FOREST

Photograph by Lindley Eddy

CAMP EVANS LODGE IN THE HEART OF THE BIG TREES

Photograph by H. E. Roberts

SEQUOIA AND FIR IN THE GENERAL GRANT NATIONAL PARK



Photograph by Lindley Eddy

JUNIPER TREES AT HAMILTON LAKE

Photograph by Lindley Eddy

West Side of Moro Rock

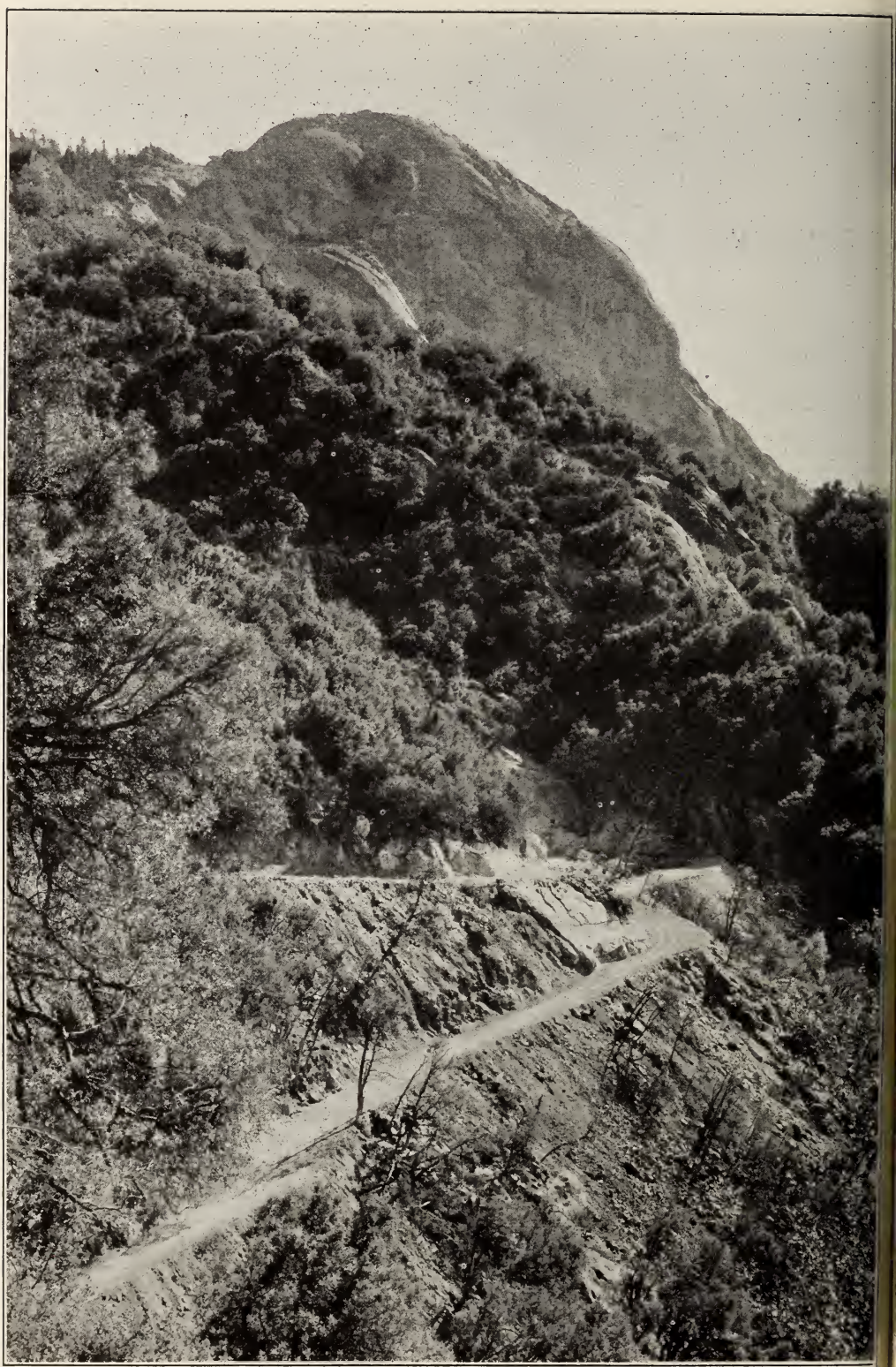
Photograph by Lindley Eddy

Stairway up Moro Rock

Photograph by Lindley Eddy

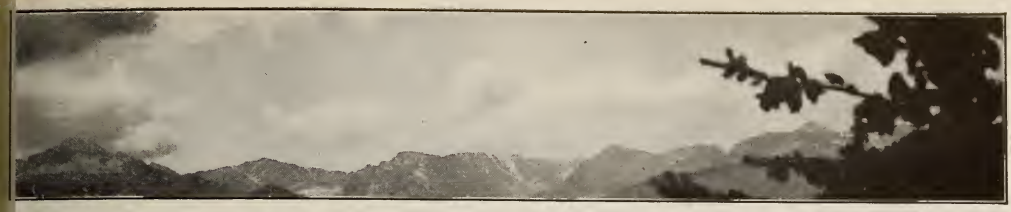
THE FALLEN GIANT

This trunk measures 288 feet. Sequoia wood is almost indestructible except by fire. This tree may have been prostrate for many centuries



Photograph by Lindley Eddy

General's Highway en Route to Giant Forest



THE GREATER SEQUOIA

TO the north and east of the original Sequoia National Park lay an area of extraordinarily scenic country. Just as the park was supreme in its forest luxuriance, so the outlying country was supreme in rock-sculptured canyon and snowy summit.

Part of this area, including Kern Canyon and Mount Whitney, was added to the park in 1926, increasing it to an area of six hundred and four square miles. Thus was acquired the Kern Canyon—a Yosemitelike valley thirty miles in length—the whole of the Upper Kaweah watershed with the River Valley and Kaweah Peaks, and Mount Whitney.

Sequoia Park now contains the largest trees, and outside of Alaska, the largest mountain in the United States. It also has the greatest range in altitude of any of our national parks—from one thousand three hundred feet at the park boundary near Ash Mountain headquarters to fourteen thousand five hundred and two feet at the summit of Mount Whitney.

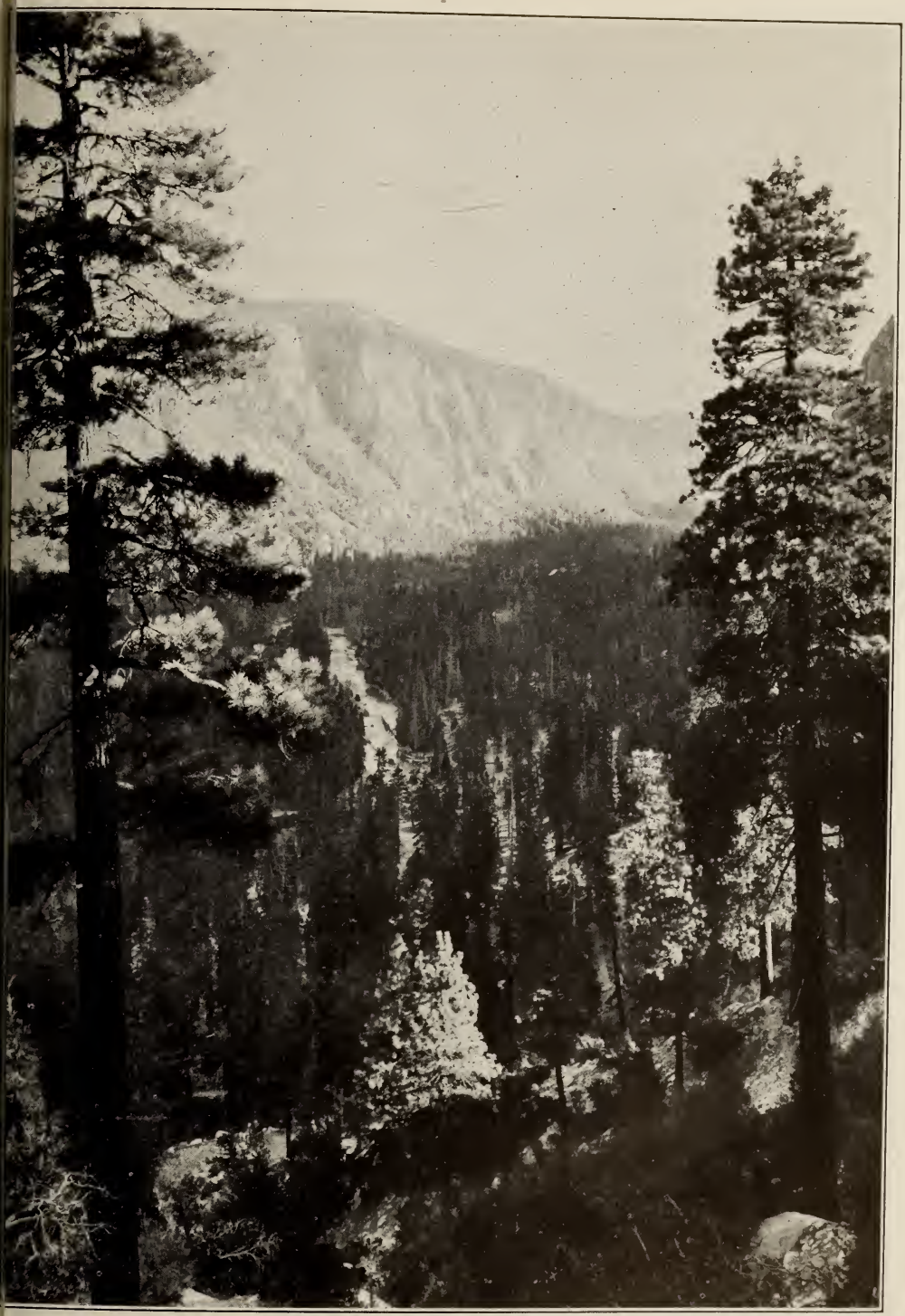
Photograph by H. C. Tibbitts

THE GOLDEN TROUT CREEK

The trout caught here are brilliantly golden. Many lakes and streams in the park have been stocked from this near-by stream

Photograph by Lindley Eddy

Big Kern Lake, Looking North up Kern River Canyon



hotograph by Lindley Eddy

LOOKING NORTHEAST DOWN KERN RIVER FROM RATTLESNAKE TRAIL

KERN *and* KAWEAH CANYONS

THE Sierras contain many of those glaciated canyons to which John Muir gave the general designation of "yosemites" from the chief of them all—the Yosemite Valley. Two of the most notable of these yosemites were added to the Sequoia Park in 1926. These are the Kern Canyon and the Upper Kaweah Canyon or River Valley. The former is over thirty miles long with three thousand feet cliffs sculptured and painted in many forms and colors, and it contains the finest fishing stream in the Sierras—the Kern River with native rainbow trout up to nine or ten pounds in weight.

The Upper Kaweah Canyon contains in River Valley, Cliff Creek, Granite Creek, and other tributaries several true yosemites, with cliffs and domes towering thousands of feet above valley floors, streams, and lakes. This region is within a day's journey of the Big Tree groves at Giant Forest and is reached by excellent trails.

Photograph by Lindley Eddy

LOOKING DOWN KERN RIVER—KERN DOME IN DISTANCE

Lion Peak from Miners Pass

Upper End of Middle Fork of Kaweah River

Cutting Trail Through Ice on Miners Pass

SIERRA'S CREST *and* OUR LOFTIEST MOUNTAIN

THE Sierra reaches its mightiest climax in Mount Whitney, the highest mountain in the United States outside of Alaska. No towering, isolated summit is Whitney, like Mount Rainier and Longs Peak, but literally a climax, for here the Sierra has massed her mountains, tumbled them willfully, recklessly, into one sprawling, titanic heap, as though this were the dumping ground for all left over after the making of America.

Out of this mass emerges one higher than the rest. That

The journey to Whitney's summit is a progress of inspiration and climax. From Visalia automobiles carry you under the very shadow of the Big Trees. From there it is a matter of horseback and pack train—out of the Big Tree forest into red firs and little sugar pines; then up among the foxtail pines into the magic land of peaks above the timber line; up the headwaters of the Kaweah; across the splendors of the Great Western Divide; into and over the Kern; then up, up, up, threading passes, skirting precipices, rounding

Photograph by Mark Daniels

No Towering, Isolated Summit Is Mount Whitney, Like Mount Rainier and Longs Peak, but Literally a Climax. Out of the Mass Emerges One Higher Than the Rest; That Is All

The Summit of Mount Whitney, Nearly Three Miles High

Photograph by Emerson Hough

Summit of Mount Whitney. The Stone Shelter on Mount Whitney's Summi

MOUNT RAINIER NATIONAL PARK

Photograph by Ranapar Studio

A Rippling River of Ice 400 Feet Thick Flowing from the Shining Summit

Looking from a wild-flower slope down upon the celebrated Nisqually Glacier and up at Columbia Crest

Party Ready to Start on Skyline Trail Trip

THE FROZEN OCTOPUS

FROM the Cascade Mountains in Washington rises a series of volcanoes which once blazed across the sea like giant beacons. Today, their fires quenched, they suggest a stalwart band of Knights of the Ages, helmeted in snow, armored in ice, standing at parade upon a carpet patterned gorgeously in wild flowers.

Easily chief of this knightly band is Mount Rainier, a giant towering fourteen thousand four hundred and eight feet above tidewater in Puget Sound. Home-bound sailors far at sea mend their courses from his silver summit.

This mountain has a glacier system far exceeding in size and impressive beauty that of any other in the United States. From its snow-covered summit twenty-eight rivers of ice pour slowly down its sides. Seen upon the map, as if from an airplane, one thinks of it as an enormous frozen octopus stretching icy tentacles down upon every side among the rich gardens of wild flowers and splendid forests of firs and cedars below.

Photograph by Ranapar Studio

GROUP OF HIKERS NEAR EDITH FALLS

Photograph by Curtis & Miller

FROM UNDER THE SHADOWY FIRS OF VAN TRUMP PARK IT GLISTENS STARTLINGLY

Photograph by Curtis & Miller

ONE OF THE GREAT SPECTACLES OF AMERICA IS MOUNT RAINIER, FROM INDIAN HENRY'S HUNTING GROUND, GLISTENING AGAINST THE SKY AND PICTURED AGAIN IN MIRROR LAKE

Photograph by Curtis & Miller

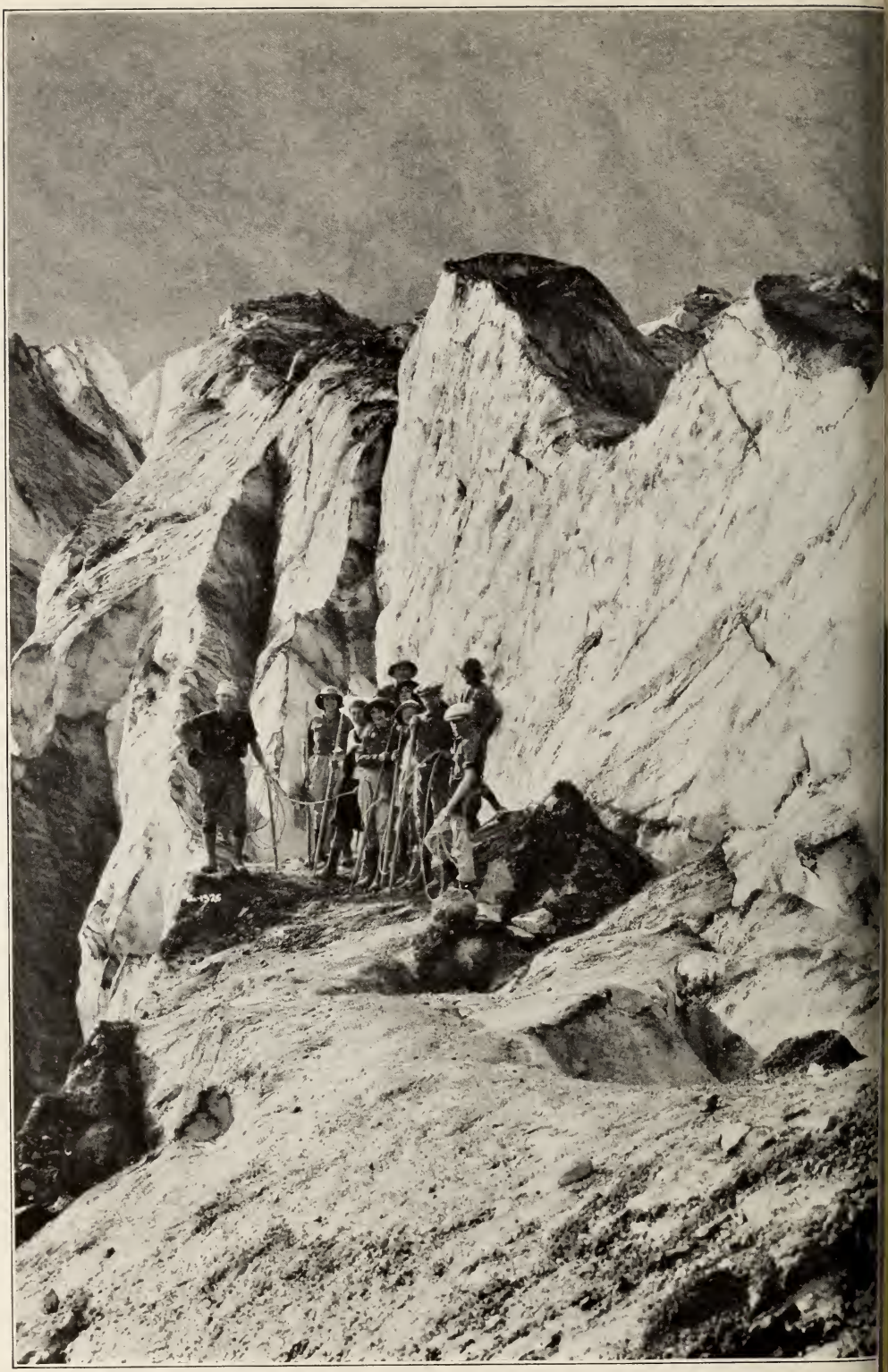
THE TWO TAHOMA GLACIERS MAY BE SEEN THROUGH THEIR WHOLE COURSES FROM INDIAN HENRY'S HUNTING GROUND

The Tahoma, on the left, begins at the summit; the South Tahoma begins in the cirque just below Point Success, the highest point shown

Photograph by Curtis & Miller

EVERYWHERE, BETWEEN AND TOUCHING THE ICY GLACIER FINGERS, ARE GORGEOUS GARDENS OF LUXURIANT WILD FLOWERS

"As if Nature," writes John Muir, "glad to make an open space between woods so dense and ice so deep, were economizing the precious ground"



Photograph by Ranapar Studio.

PARTY OUT ON THE GLACIAL ICE

The guides who take parties out on the glaciers are familiar with all ridges and creva

THE GIANT RIVERS OF ICE

EVERY winter the moisture-laden winds from the Pacific, suddenly cooled against its summit, deposit upon Rainier's top and sides enormous snows. These, settling in the mile-wide crater which was left after an explosion in some prehistoric age which carried ay perhaps two thousand feet of the volcano's former height, press with rwhelming weight down the mountain's sloping sides.

Thus are born the glaciers, for the snow under its own pressure quickly dens into ice. Through twenty-eight valleys, self-carved in the solid rock, these rivers of ice, now turning, as rivers of water turn, to avoid the harder k strata, now roaring over precipices like congealed water falls, now rip- g, like water currents, over rough bottoms, pushing, pouring relentlessly until they reach those parts of their courses where warmer air turns them o rivers of water.

There are forty-eight square miles of these glaciers.

otograph by Curtis & Miller

SNOUT OF NISQUALLY GLACIER WHERE THE NISQUALLY RIVER BEGINS

Photograph by Curtis & Miller

CLOSE TO THE SUMMIT OF MOUNT RAINIER

Photograph by Ranapar Studio

LEAVING FOR THE SUMMIT

Party at the foot of Pinnacle Glacier. Paradise Valley in distance with Mount Ra er rising above into the clouds

IN AN ARCTIC WONDERLAND

MOUNT RAINIER is nearly three miles high measured from sea level. It rises early two miles from its immediate base. Once it was a nished cone like the famous ujiyama, the sacred mountain Japan. Then it was probly sixteen thousand feet high. ndian legends tell of the great uption.

In addition to the twenty-ght named glaciers there are hers yet unnamed and little nown. Few visitors have en the wonderful north side, photograph of which will be und on a later page. It posesses possibilities for the delopment of a route to Colmbia Crest, the wonderful ow-covered summit which is e third highest summit in e United States.

Many interesting things ight be told of the glaciers ere there space. For example, veral species of minute insects e in the ice, hopping about e tiny fleas. They are harder see than the so-called sand as at the seashore because uch smaller. Slender, darkown worms live in countless illions in the surface ice. croscopic rose-colored plants so thrive in such great numrs that they tint the surface re and there, making what is mmonly called "red snow."

Photograph by Ranapar Studio

COASTING AT PARADISE VALLEY

GLACIER AND WILD FLOWER

PROBABLY no glacier of large size in the world is so quickly, easily and comfortably reached as the most striking and celebrated though by no means the largest, of Mount Rainier's, the Nisqually Glacier. It descends directly south from the snowy summit in long curve, its lower finger reaching into parklike glades of luxuriant wi flowers. From Paradise Park one may step directly upon its fissured surfac

The Nisqually Glacier is five miles long and at Paradise Park is half mile wide. Glistening white and fairly smooth at its shining source on th mountain's summit, its surface here is soiled with dust and broken stone ar squeezed and rent by terrible pressure into fantastic shapes. Innumerab crevasses, or cracks many feet deep, break across it caused by the more rap movement of the glacier's middle than its edges; for glaciers, like rivers water, develop swifter currents nearer midstream.

Professor Le Conte tells us that the movement of Nisqually Glacier summer averages, at midstream, about sixteen inches a day. It is far less the margins, its speed being retarded by the friction of the sides.

Like all glaciers, the Nisqually gathers on its surface masses of rock wit which it strews its sides just as rivers of water strew their banks with rocks ar floating débris. These are called lateral moraines, or side moraines. Som times glaciers build lateral moraines miles long. The Nisqually ice is four hu dred feet thick in places.

The rocks which are carried in midstream to the end of the glacier ar dropped when the ice melts are called the terminal moraine.

The end, or snout, of the glacier thus always lies among a great mass rocks and stones. The Nisqually River generally flows from a cave in the en of the Nisqually Glacier's snout. The river is dark brown when it first appea because it carries sediment and powdered rock which, however, it soon deposit becoming clear.

But this brief picture of the Mount Rainier National Park would miss i loveliest touch without some notice of the wild-flower parks lying at the bas and often reaching far up between the icy fingers, of Mount Rainier.

"Above the forests," writes John Muir, the celebrated naturalist, "the is a zone of the loveliest flowers, fifty miles in circuit and nearly two mil wide, so closely planted and luxurious that it seems as if nature, glad to mak an open space between woods so dense and ice so deep, were economizing th precious ground and trying to see how many of her darlings she can g together in one mountain wreath—daisies, anemones, columbine, erythronium larkspurs, etc., among which we wade knee-deep and waist-deep, the brig corollas in myriads touching petal to petal. Altogether this is the riche subalpine garden I have ever found, a perfect flower elysium."

hotograph by Curtis & Miller

MOUNT ADAMS FROM MOUNT RAINIER—FORTY MILES SOUTHWARD

Copyrighted, 1903, by W. P. Romans, Seattle

Spray Park

The northwest slope of Mount Rainier will soon become the health and pleasure garden of many thousands. This superb slope has been seen by few visitors, owing to its inaccessibility, but a road to this section is under construction

Photograph by Curtis & Miller

BEAUTIFUL PARADISE VALLEY SHOWING THE TATOOSH RIDGE

Photograph by Curtis & Miller

TIMBER LINE AND FLOWER FIELDS IN BEAUTIFUL PARADISE VALLEY

Photograph by Curtis & Miller

THE MORNINGS OFTEN ROLL TOSSING SEAS OF MIST INTO THE VALLEYS, FROM WHICH EMERGE AT INTERVALS CRAGGY TOPS, GLISTENING GLACIERS, AND FAR-DISTANT MOUNTAIN PEAKS

This photograph was taken from a height at Indian Henrys. Mount St. Helens is lost in the mists forty miles away

Photograph by Curtis & Miller

COMET FALLS

Photograph by Curtis & Miller

SLUISKIN FALLS

Photograph by A. H. Barnes

SNOW CUPS

Mowich Lake, a North-Side Gem of Beauty

Alaska Dog Team in Paradise Valley

Riding on this sledge is one of the popular diversions of the winter sports season

Photograph by Ranapar Studio

PARADISE INN, IN PARADISE VALLEY

Only 15 minutes' walk from Nisqually Glacier, which may be seen crushing down th mountain side

Photograph by Ranapar Studio

THE ROADS LEAD TO THE GLACIERS THROUGH FORESTS OF FIR AND CEDAR

These trees measure 10 and 12 feet in diameter

EASIEST GLACIERS TO SEE

THE Mount Rainier National Park is so accessible that one may get a brief close-by glimpse in one day. The railroad slogan, "Four hours from Tacoma to the Glaciers," tells the story.

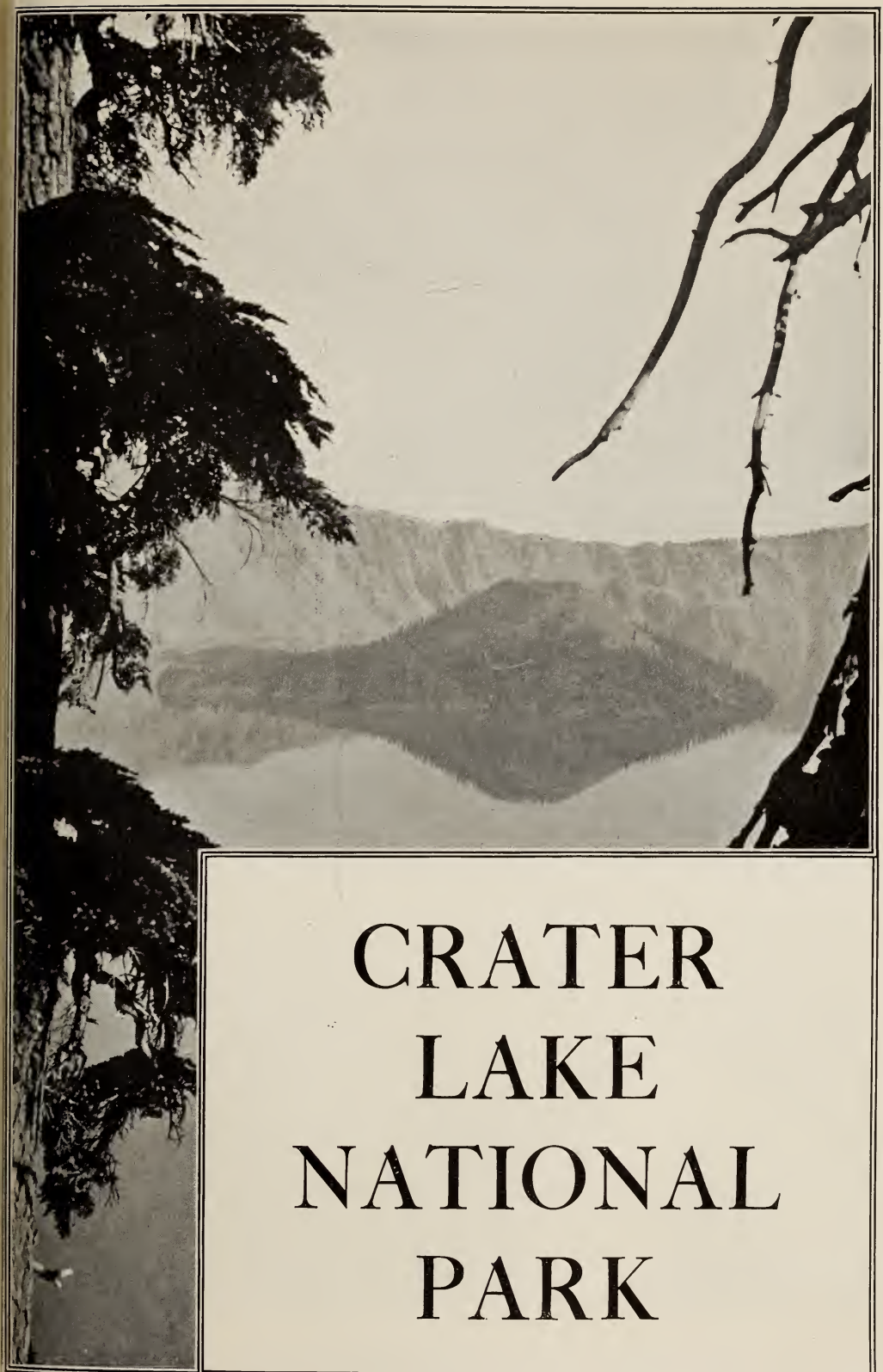
But no one, unless under dire necessity, should think of being so near one of the greatest spectacles in nature without sparing several days for a real look; several weeks is none too long. Thousands of Americans in normal years go to Switzerland to see glaciers much harder to reach and far less satisfactory to study.

Excellent roads carry the visitor by autostage from the coast cities and railway terminus to the several hotels and camps, which are so located that the principal scenic points on the south side may be easily reached. Other scenic wonderlands of the great playground are being made accessible by new roads under construction.

Pedestrians and horseback riders also follow trails through the gorgeous wild-flower parks, Paradise Valley, Indian Henrys Hunting Ground, Van Trump Park, Cowlitz Park, Ohanapecosh River and its hot springs, Summerland, Grand Park, Moraine Park, Elysian Fields, Spray Park, Natural Bridge, Cataract Basin, St. Andrews Park, and others, developing new points of view of wonderful glory.

Photograph by Ranapar Studio

A Section of the Paradise Public Camp Grounds



CRATER LAKE NATIONAL PARK

Photograph by Fred H. Kiser, Portland, Oreg.

LOOKING INTO ITS VAST DEPTHS IS LIKE LOOKING INTO THE LIMITLESS SKY

Photograph by U. S. Reclamation Service

THE PHANTOM SHIP—STRANDED ON A MAGIC SHORE

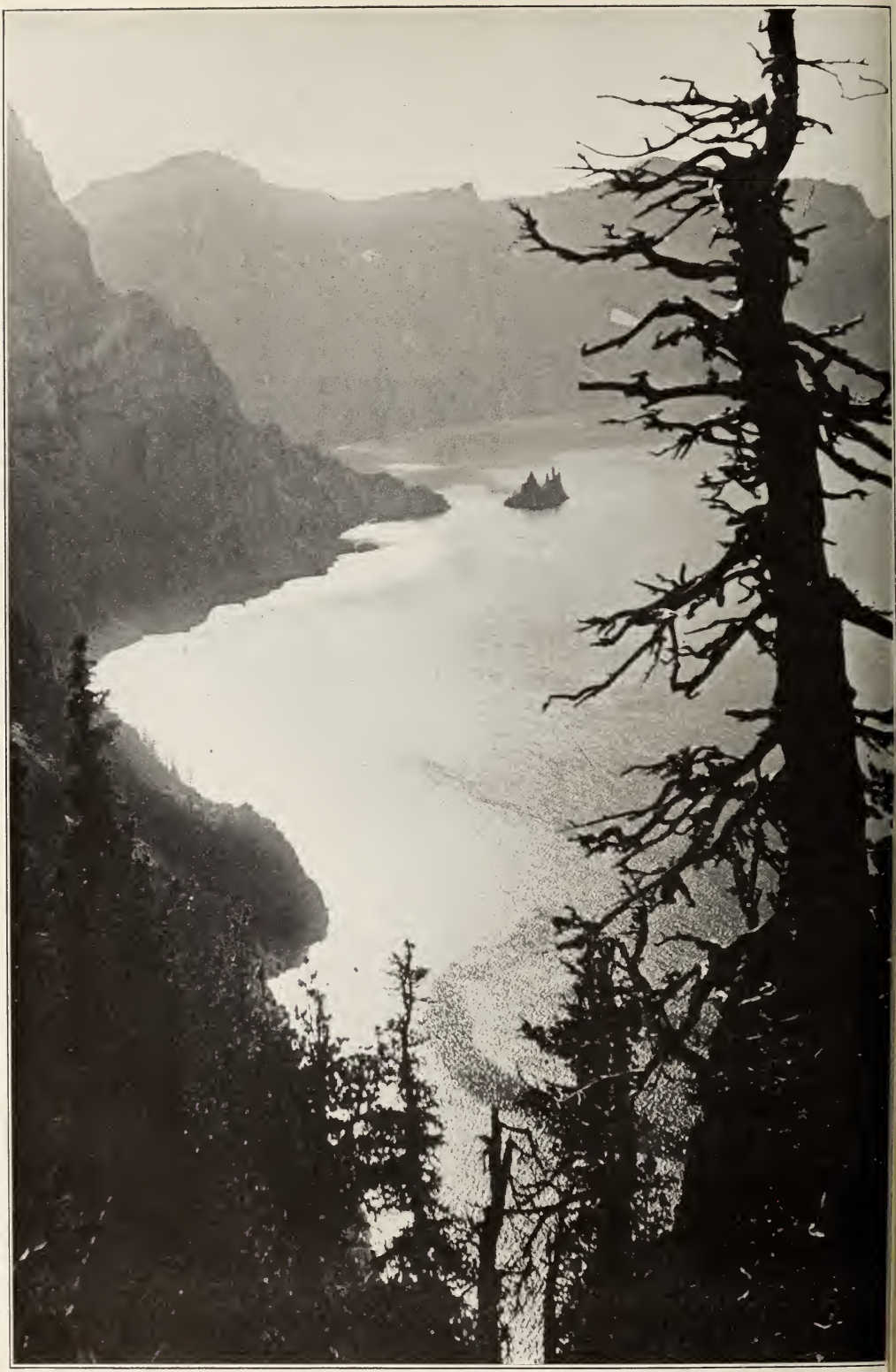
THE LAKE OF MYSTERY

CRATER LAKE is the deepest and the bluest fresh-water lake in the world. It measures two thousand feet of solid water, and the intensity of its color is unbelievable even while you look at it. Its cliffs from sky line to surface average over a thousand feet high. It has no visible inlet or outlet, for it occupies the hole left when, in the dim ages before man, a volcano collapsed and disappeared within itself.

It is a gem of wonderful color in a setting of pearly lavas relieved by patches of pine green and snow white—a gem which changes hue with every atmospheric change and every shift of light.

There are crater lakes in other lands; in Italy, for instance, in Germany, India, and Hawaii. The one lake of its kind in the United States is by far the finest of its kind in the world. It is one of the most distinguished spots in a land notable for the nobility and distinction of its scenery.

Crater Lake lies in southern Oregon. The volcano whose site it has usurped was one of a "noble band of fire mountains, which, like beacons, once blazed along the Pacific coast." Because of its unique character and quite extraordinary beauty it was made a national park in 1902.



Photograph by Patterson

THE SUN PLAYS WONDERFUL TRICKS WITH LIGHTS AND SHADOWS

"THE SEA OF SILENCE"

NEARLY every visitor to Crater Lake, even the most prosaic, describes it as mysterious. To those who have not seen it, the adjective is difficult to analyze, but the fact remains.

The explanation may lie in Crater Lake's remarkable color scheme. The infinite range of grays, silvers, and pearls in the carved and fretted lava walls, the glinting white of occasional snow patches, the olives and pine greens of woods and mosses, the vivid, cloud-flecked azure of the sky, and the lake's thousand shades of blue, from the brilliant turquoise of its edges to the black blue of its depths of deepest shadow, strike into silence the least impressionable observers. "The Sea of Silence," Joaquin Miller calls Crater Lake.

With changing conditions of sun and air, this amazing spectacle changes key with the passing hours; and it is hard to say which is its most rapturous condition of beauty, that of cloudless sunshine or that of twilight shadow; or of what intermediate degree, or of storm or of shower or of moonlight or of starlight. At times the scene changes magically while you watch.

Photograph by Patterson

EVENING SHADOWS

Copyright by Fred H. Kiser, Portland, Oreg.

A Scenic Tapestry Viewed from the Rim Trail

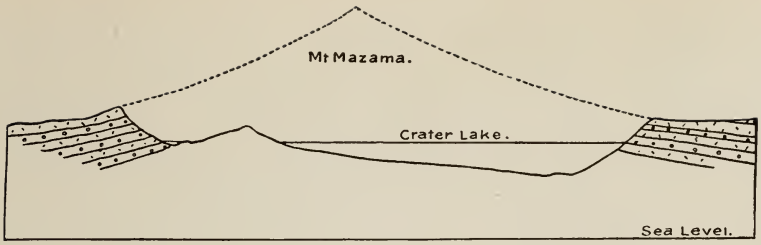
Photograph by Fred H. Kiser, Portland, Oreg.

CLIFFS OF A THOUSAND PEARLY HUES FANTASTICALLY CARVED

Copyright by Patterson

THE KLAMATH ENTRANCE

The park is a wonderful exhibit of typical western forests in a virgin state



STORY OF MOUNT MAZAMA

FEW of the astonishing pictures which geology has restored for us of this world in its making are so startling as that of Mount Mazama, which once reared a smoking peak many thousands of feet above the present peaceful level of Crater Lake. There were many noble volcanoes in the range: Mount Baker, Mount Rainier, Mount Adams, Mount St. Helens, Lassen Peak, Mount Mazama, Mount Hood, Mount Shasta. Once their vomitings built the great Cascade Mountains. To-day, cold and silent, they stand wrapped in shining armor of ice.

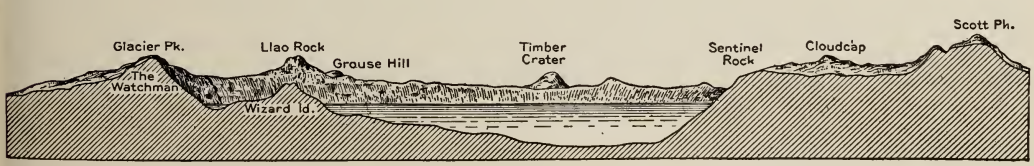
But not all. One is missing. Where Mount Mazama reared his noble head, there is nothing—until you climb the slopes once his foothills, and gaze spellbound over the broken lava cliffs into the lake which lies magically where once he stood. The story of the undoing of Mount Mazama, of the birth of this wonder lake, is one of the great stories of the earth.

Mount Mazama fell into itself. It is as if some vast cavern formed in the earth's seething interior into which the entire volcano suddenly slipped. The imagination of Doré might have reproduced some hint of the titanic spectacle of the disappearance of a mountain fifteen thousand feet in height.

When Mount Mazama collapsed into this vast hole, leaving clean cut the edges which to-day are Crater Lake's surrounding cliffs, there was instantly a surging back. The crumbling lavas were forced again up the huge chimney.

But not all the way. The vent became jammed. In three spots only did the fires emerge again. Three small volcanoes formed in the hollow.

But these in turn soon choked and cooled. During succeeding ages springs poured their waters into the vast cavity, and Crater Lake was born. Its rising waters covered two of the small volcanic cones. The third still emerges. It is called Wizard Island.



Photograph by Fred H. Kiser, Portland, Oreg.

SUNSET

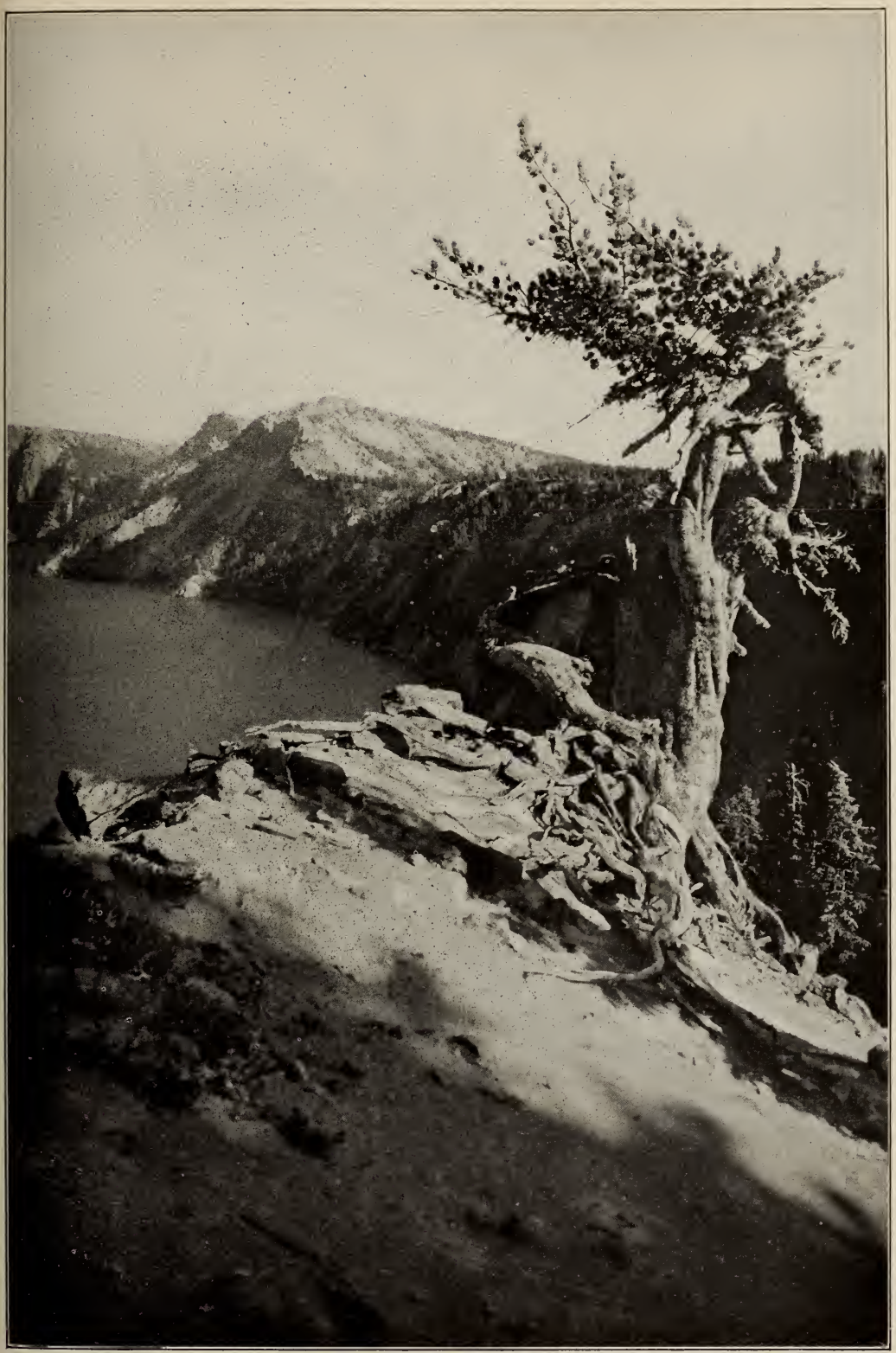
THE LEGEND OF LLAO

ACCORDING to the legend of the Klamath and Modoc Indians the mystic land of Gaywas was the home of the great god Llao. His throne in the infinite depths of the blue waters was surrounded by his warriors, giant crawfish able to lift great claws out of the water and seize too venturesome enemies on the cliff tops.

War broke out with Skell, the god of the neighboring Klamath Marshes. Skell was killed and his heart used for a ball by Llao's monsters. But an eagle, one of Skell's servants, captured it in flight, and escaped with it; and Skell's body grew again around his living heart. Once more he was powerful, and once more he waged war against the God of the Lake.

Then Llao was captured; but he was not so fortunate. Upon the highest cliff his body was torn into fragments and cast into the lake, and eaten by his own monsters under the belief that it was Skell's body. But when Llao's head was thrown in, the monsters recognized it, and would not eat it.

Llao's head still lies in the lake, and white men call it Wizard Island. And the cliff where Llao was torn to pieces is named Llao Rock.



Photograph by Fred H. Kiser, Portland, Oreg.

OFTEN THE TREES ARE AS GNARLED AND KNOTTED AS THE CLIFFS THEY GROW ON

Photograph by U. S. Reclamation Service

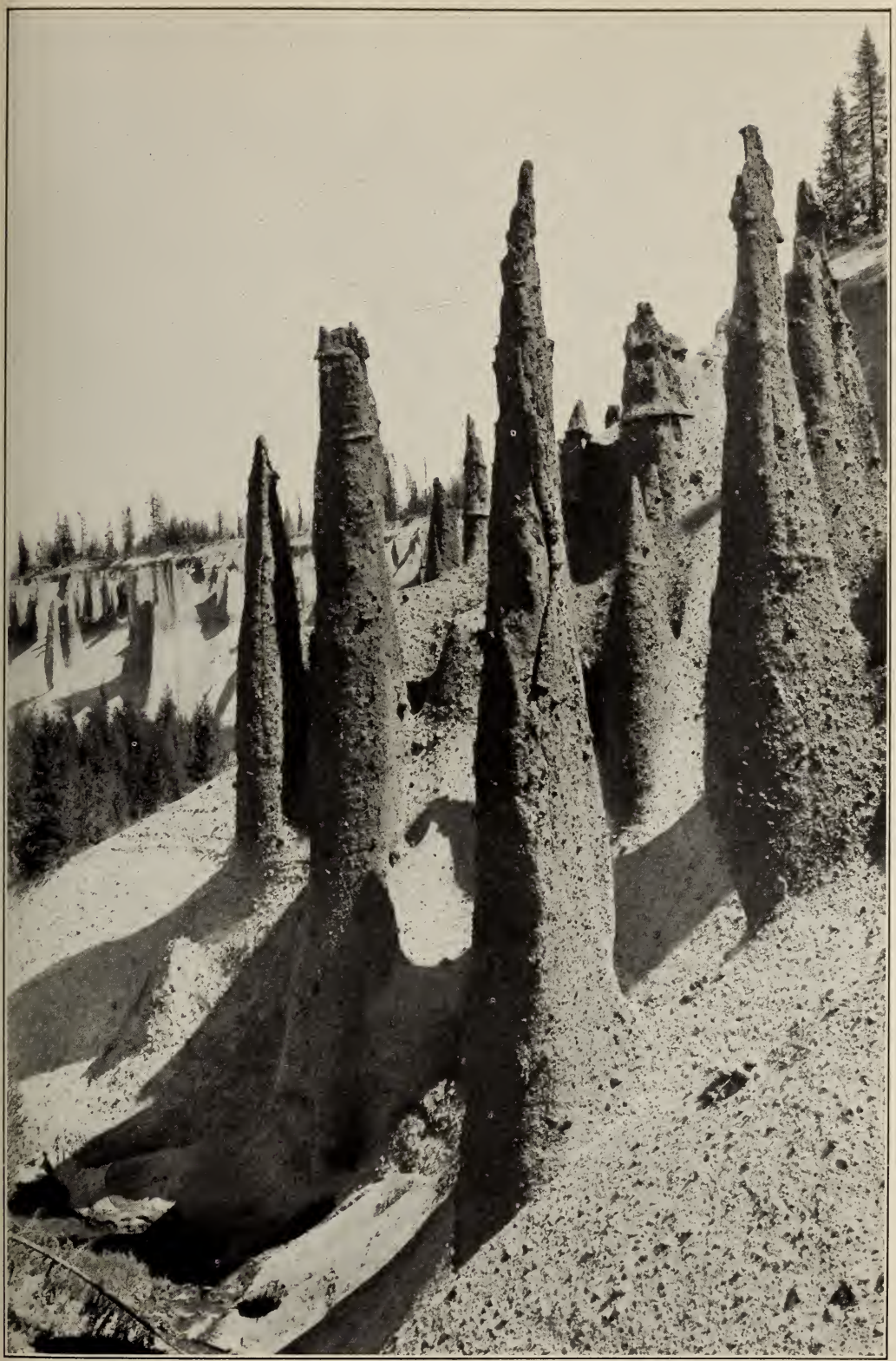
LOOKING DOWN INTO THE CRATER OF WIZARD ISLAND

VIEWED FROM THE RIM

SEVERAL days may profitably be spent upon the rim of the lake, which one may travel afoot, on horseback, or by automobile. The endless variety of lava formations and of color variation may be here studied to the best advantage.

The temperature of the water has been the subject of much investigation. The average observations of years show that, whatever may be the surface variations, the temperature of the water below a depth of three hundred feet continues approximately thirty-nine degrees the year around. This disposes of the theory that the depths of the lake are affected by volcanic heat.

"Apart from its attractive scenic features," writes J. S. Diller of the United States Geological Survey, "Crater Lake affords one of the most interesting and instructive fields for the study of volcanic geology to be found anywhere in the world. Considered in all its aspects, it ranks with the Grand Canyon of the Colorado, the Yosemite Valley, and the Falls of Niagara, but with an individuality that is superlative."



Copyright by Patterson

PINNACLE FORMATIONS IN SAND CREEK VALLEY, FORMED BY EROSION

Photograph by U. S. Reclamation Service

GENERAL VIEW ACROSS CRATER LAKE NEAR SENTINEL ROCK, SHOWING

These cliffs vary from a thousand to twelve hundred feet high, occasionally rising to two thousand feet or m

NORTHERN SHORE LINE, WITH RED CONE IN THE MIDDLE DISTANCE

The first effect of a view across the lake is to fill the observer with awe and a deep sense of mystery

Copyright by Fred H. Kiser, Portland, Oreg.

CLOSE-UP VIEW OF PHANTOM SHIP, WITH WIZARD ISLAND IN BACKGROUND

Copyright by Fred Kiser, Portland, Oreg.

WIZARD ISLAND

A volcano built up within a volcano—a crater within a crater

Photograph by U. S. Reclamation Service

View of Llao Rock, Which Strongly Suggests Crater Lake's Atmosphere of Mystery

Copyright by Fred H. Kiser

THE BEARS ARE THE MOST INTERESTING OF THE PARK'S WILD ANIMALS

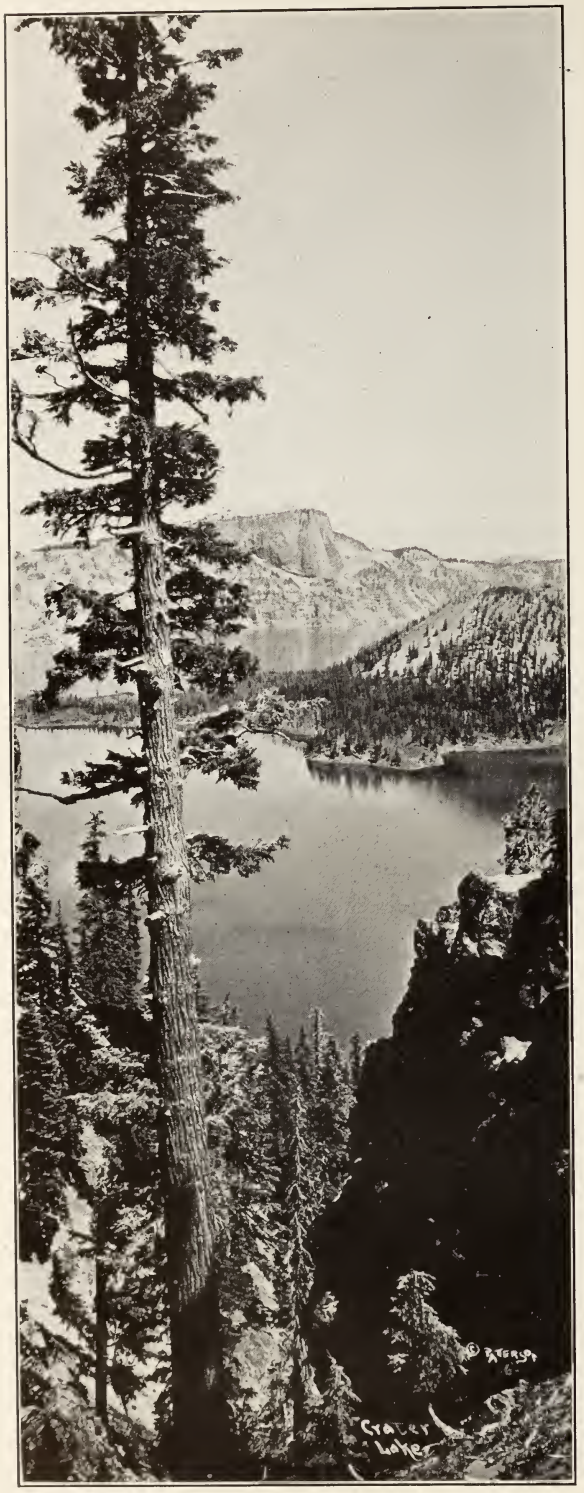
Photograph by National Park Service

THE MOISTURE-LADEN WINDS FROM THE PACIFIC DEPOSIT THEIR SNOW BURDEN UPON EVERYTHING

Photograph by National Park Service

THE WINTER CONTRAST BETWEEN THE SNOW BURDENED CLIFFS AND TREES AND THE DARK WATER IS VERY STRIKING

THE MINE OF BEAUTY



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VIEW FROM THE RIM ROAD, WHICH COMPLETELY ENCIRCLES THE LAKE

CRATER LAKE is seen in its glory from a launch. One may float for days upon its surface without sating one's sense of delighted surprise; for all is new again with every change of light. The Phantom Ship, for instance, sometimes wholly disappears. Now it is there, and a few minutes after, with new slants of light, it is gone—a phantom indeed. So it is with many headlands and ghostlike palisades.

This lake was not discovered until 1853. Eleven Californians had undertaken once more the search for the famous, perhaps fabulous, Lost Cabin Mine. For many years parties had been searching the Cascades; again they had come into the Rogue River region. With all their secrecy their object became known, and a party of Oregonians was hastily organized to stalk them and share their find. The Californians discovered the pursuit and divided their party. The Oregonians did the same. It became a game of hide-and-seek. When provisions were nearly exhausted all the parties joined forces.

"Suddenly we came in sight of water," writes J. W. Hillman, then the leader of the combined party; "we were much surprised as we did not expect to see any lakes and did not know but that we had come in sight of and close to Klamath Lake. Not until we

Photograph by Fred H. Kiser, Portland, Oreg.

THE FAVORITE WAY TO SEE THE SCULPTURED CLIFFS IS FROM A MOTOR BOAT

nule stopped within a few feet of the rim of Crater Lake did I look down, nd if I had been riding a blind mule I firmly believe I would have ridden over he edge to death."

It is interesting that the discoverers quarreled on the choice of a name, lividing between Mysterious Lake and Deep Blue Lake. The advocates of Deep Blue Lake won the vote, but in 1869 a visiting party from Jacksonville renamed t Crater Lake, and this, by natural right, became its title.

HOTELS AND CAMPS

Crater Lake is accessible by both rail and highway. There are three xcellent roads coming in the west, south, and east entrances. Comfortable otel accommodations are available on the rim of the lake, and rental cabins, afeteria, store, stage line, and boat service are also provided for the comfort of isitors. The Government maintains a free automobile camp ground for the isiting motorist.

HARD-FIGHTING TROUT

THIS magnificent body of cold fresh water originally contained no fish of any kind. A small crustacean was found in large numbers in its waters, the suggestion, no doubt, upon which was founded the Indian legend of the gigantic crawfish which formed the body-guard of the great god Llao.

In 1888 Will G. Steel brought trout fry from a ranch fifty miles away, but no fish were seen in the lake for more than a dozen years. Then a few were taken, one of which was fully thirty inches long.

Photograph by Patterson

THERE ARE NINE FORESTED CAMP GROUNDS IN THE PARK

Since then trout have been taken in ever-increasing numbers, both by fly casting and trolling. Rainbow trout vary from one to ten pounds in weight.

The Rogue River, which has its source partially within the park, is one of the most famous trout streams in the world, being the home of the phenomenally game steelhead.

Anglers of experience in western fishing have testified that, pound for pound, the trout taken in the cold deep waters of Crater Lake are about the hardest-fighting trout of all. Some fish may be taken from the shore of Crater Lake, but the best fishing is to be had from boats.

Photograph by U. S. Reclamation Service

AT THE FOOT OF THE TRAIL FROM CRATER LAKE LODGE

Photograph by Fred H. Kiser, Portland, Oreg.

ACROSS THE LAKE FROM THE RIM ROAD

Copyright by Patterson

CRATER LAKE LODGE ON THE RIM, 1,000 FEET ABOVE THE LAKE

A 40 by 60 foot lounge occupies the entire ground floor of the central unit of the building, without pillar or pos and contains what is said to be the largest fireplace in Oregon

THE MESA VERDE NATIONAL PARK

KNIFE-EDGE SECTION OF NORTH ENTRANCE ROAD

This road skirts the south face of the Mesa Verde, 1,800 feet above the Montezuma Valley

Photograph by F. C. Jeep

YESTERDAY AND TO-DAY

COMMUNITIES *of the* PAST

ONE December day in 1888 Richard and Alfred Wetherell, searching for lost cattle on the Mesa Verde southwest of Mancos, Colorado, pushed through dense growths on the edge of a deep canyon and shouted aloud in astonishment. Across the canyon, tucked into a shelf under the overhanging edge of the opposite brink, were the walls and towers of what seemed to them a palace. They named it Cliff Palace.

Forgetting the cattle in their excitement, they searched the mesa in all directions. Near by, under the overhanging edge of another canyon, they found a similar group, no less majestic, which they named Spruce Tree House because a large spruce grew out of the ruins.

Thus were discovered the most elaborate and best-preserved prehistoric cliff-dweller ruins in America, if not in the world.

A careful search of the entire Mesa Verde in the years following has resulted in many other finds of interest and importance. In 1906 Congress set aside the region as a national park. Even yet its treasures of antiquity are not all known. A remarkable temple to the sun was unearthed in 1915.

Photograph by J. L. Nusbaum

THE MESA VERDE, OR GREEN MESA, WAS SO NAMED BECAUSE OF THE DENSE FOREST COVER OF JUNIPER, CEDAR, PIÑON, SCRUB OAK, AND SHRUBBERY

Photograph by J. L. Nusbaum

ABOVE THE ABRUPT ROCKY TALUS, RISE PRECIPITOUSLY THE CLIFFS UNDER WHOSE OVERHANG THE CLIFF DWELLINGS NESTLE

Photograph by Geo. L. Beam, Denver, Colo.

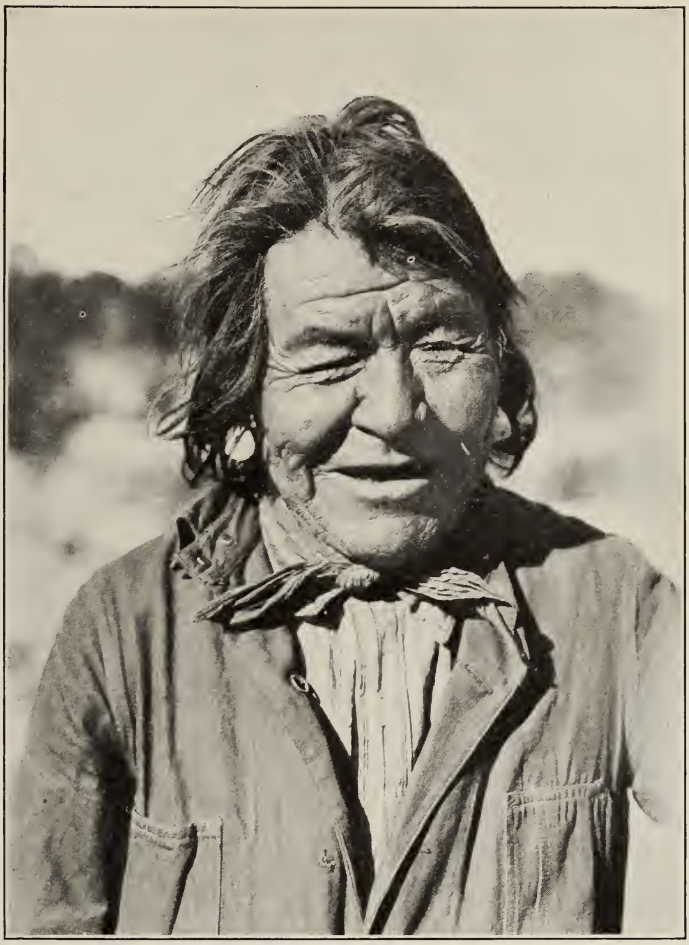
THE SUN TEMPLE, LOOKING NORTHEAST.

SHOWING AT LEFT THE STUMP OF CEDAR TREE WITH 360 ANNULAR RINGS WHICH WAS CUT DOWN DURING EXCAVATION

Spruce Tree House Was Amply Protected from the Heavy Winter Snows

THE STORY OF THE MESAS

THOSE who have traveled through our Southwestern States have seen from the car windows innumerable mesas or isolated plateaus rising abruptly for hundreds of feet from the bare and often arid plains. The word "mesa" is Spanish for table. Once the level of these mesa tops was the level of all of this vast southwestern country, but the rains and floods of centuries have washed away the softer earths down to its present level, leaving standing only the rocky spots or those so covered with surface rocks that the rains could not reach the softer strata underneath.



NAVAJO INDIANS CONSTITUTE THE BULK OF THE PARK'S LABORING FORCES. AT THE EVENING CAMP FIRE THEY GIVE THEIR YEBECHAI DANCE

The Mesa Verde (called verde or green because of the heavy forest cover) is one of the great mesas, being approximately fifteen miles long and eight miles wide, and perhaps the most widely known in the Southwest. The surface of this great table-land, rising abruptly one thousand to two thousand five hundred feet above the surrounding valleys, is gashed by a great series of precipitous canyons, and in the great caves in the sheer canyon walls the ruins of the ancient cliff dwellers are found. The most important ruins are located in Rock, Long, Wickiup, Navajo, Spruce, Soda, Moccasin, and tributary canyons.

IN THE CLIFF DWELLINGS

LIFE must have been difficult in this dry country when the Mesa Verde communities flourished in the sides of these sandstone cliffs. Game was scarce and hunting arduous. The Mancos River yielded a few fish. The earth contributed berries or nuts. Water was rare and found only in sequestered places near the heads of the canyons. Nevertheless, the inhabitants cultivated their farms and raised their corn, which they ground on flat stones called metates. They baked their bread on flat stone griddles. They boiled their meat in well-made vessels some of which were artistically decorated.

Their life was difficult, but confidently did they believe that they were dependent upon the gods to make the rain fall and the corn grow. They were a religious people who worshipped the sun as the father of all and the earth as the mother who brought them all their material blessings. They possessed no written language and could only record their thoughts by a few symbols which they painted on their earthenware jars or scratched on the rocks.

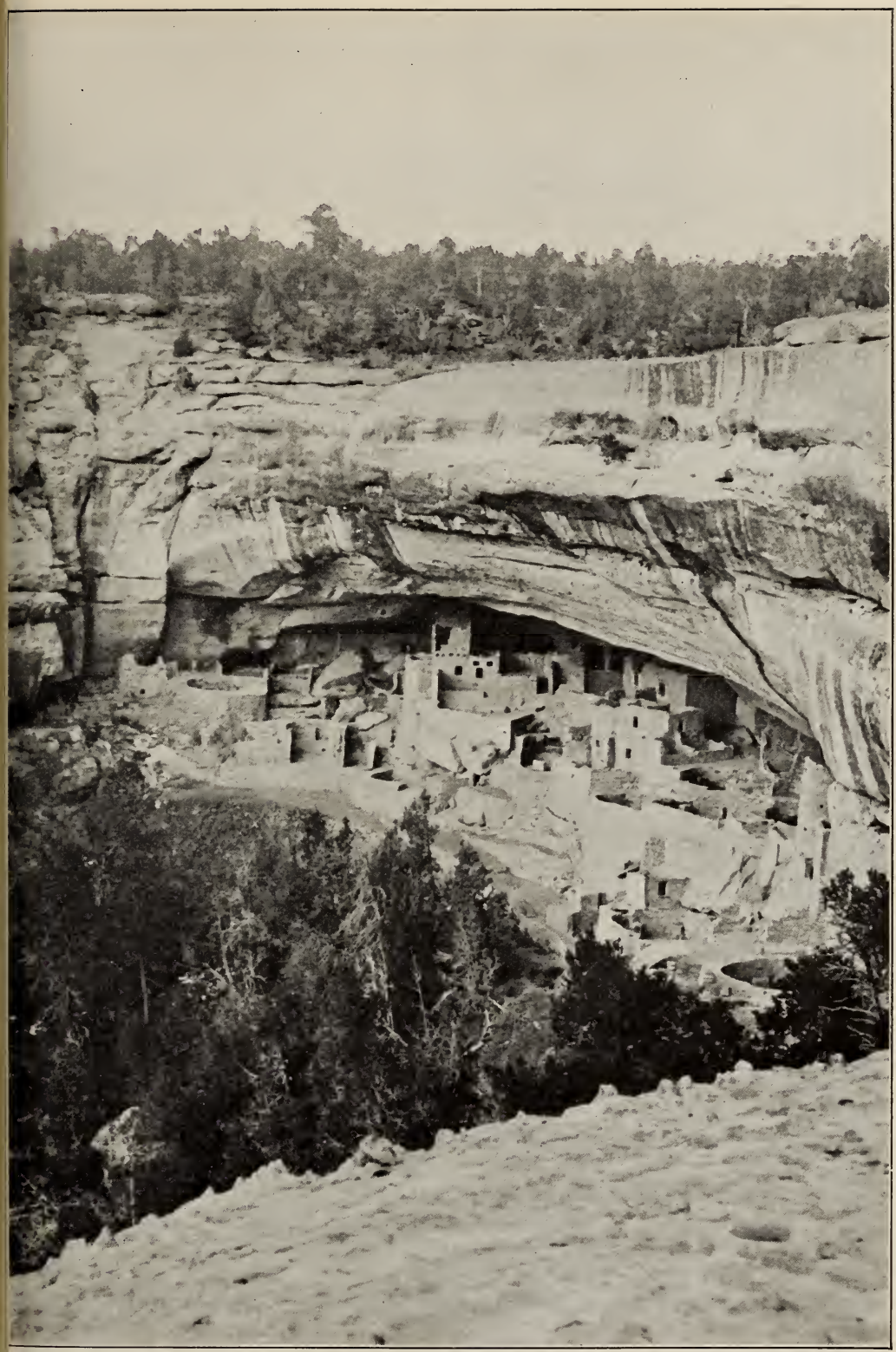
As their sense of beauty was keen, their art, though primitive, was true; rarely realistic, generally symbolic. Their decoration of cotton fabrics and ceramic work might be called beautiful, even when judged by the highly developed taste of to-day. They fashioned axes, spear points, and rude tools of stone; they wove sandals and made attractive basketry.

They were not content with rude buildings and had long outgrown the caves that satisfied less civilized Indians farther north and south of them.

The photographs of Cliff Palace on the following three pages will show not only the protection afforded by the overhanging cliffs but the general scheme of community living.

The population was composed of a series of units, possibly clans, each of which had its own social organization more or less distinct from the others. Each had ceremonial rooms, called kivas. Each also had living rooms and storerooms. There were twenty-three social units or clans in Cliff Palace.

The kivas were the rooms where the men spent most of the time devoted to ceremonies, councils, and other gatherings. The religious fraternities were limited to the men of a clan.



Cliff Palace With Its Two Hundred and Two Rooms and Twenty-Three Kivas Is the Largest and Best Preserved of the Known Cliff Dwellings

Photograph by Geo. L. Beam, Denver, Colo.

LOOKING ACROSS CLIFF CANYON FROM CLIFF PALACE; SUN TEMPLE ON EXTREME RIGHT IN DISTANCE ON TOP OF CLIFF

Photograph by Arthur Chapman

THE SPEAKER CHIEF'S HOUSE OCCUPIES A COMMANDING POSITION IN CLIFF PALACE

Photograph by Arthur Chapman

NORTHEAST QUARTER OF CLIFF PALACE

Photograph by T. G. Lemmon

STONES FROM SUN TEMPLE COVERED WITH GEOMETRICAL AND EMBLEMATICAL DESIGNS

THE MESA'S LITTLE PEOPLE

INDIANS of to-day shun the ruins of the Mesa Verde. They believe them inhabited by spirits whom they call the Little People. It is vain to tell them that the Little People were probably their own ancestors; they refuse to believe it.

When the national park telephone line was building in 1915 the Indians were greatly excited. Coming to the Superintendent's office, they shook their heads ominously.

The poles wouldn't stand up, they declared. Why? Because the Little People wouldn't like such an uncanny thing as a telephone.

But poles were standing, the Superintendent pointed out. All right, the Indians replied, but wait. The wires wouldn't talk. Little People wouldn't like it.

The poles were finally all in and the wires strung. What was more, the wires actually did talk and are still talking.

Never mind, say the Indians, with unshaken faith. Never mind. Wait. That's all. It will come. The Little People may stand it—for a while. But wait. The Superintendent is still waiting.

Photograph by F. C. Jeep

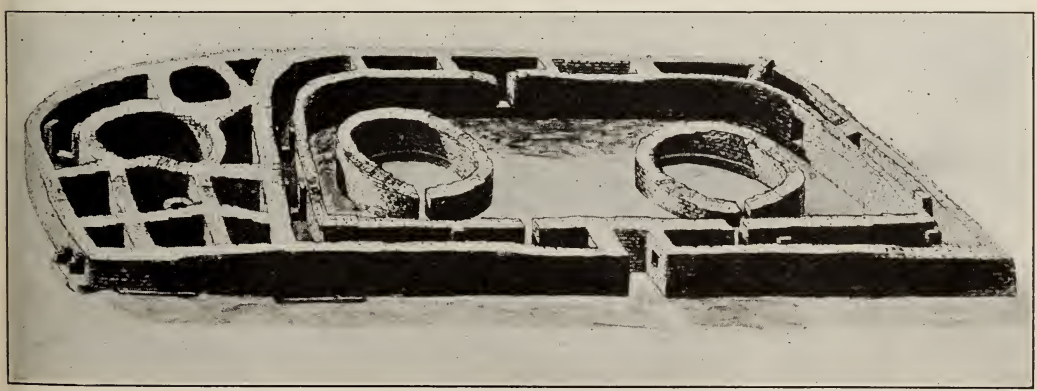
Constructive Detail of South Wall, Sun Temple

DISCOVERY OF SUN TEMPLE

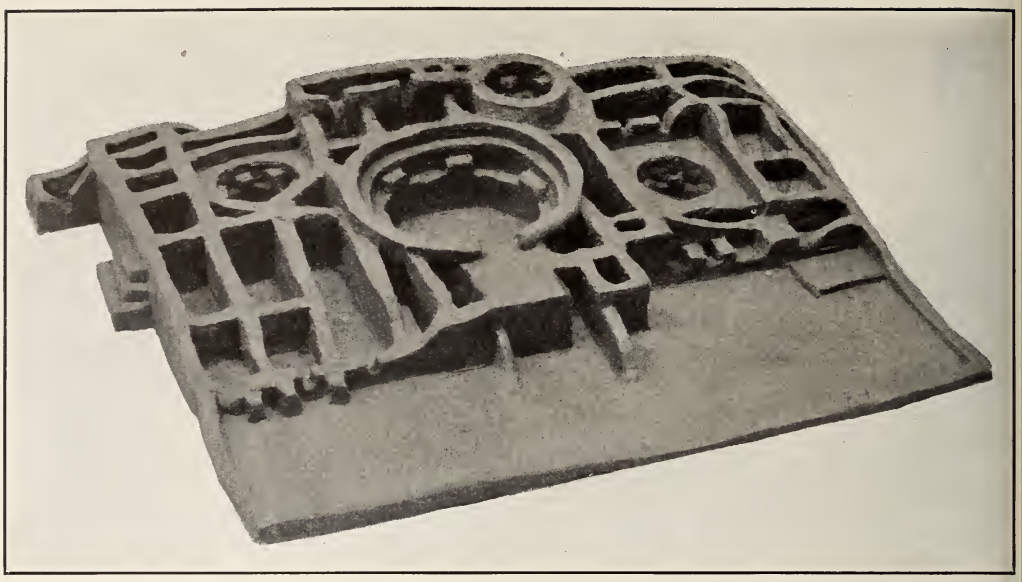
UNTIL the summer of 1915 no structures had been discovered in the Mesa Verde except those of the cliff-dwelling type. Then the Department of the Interior explored a mound on the top of the mesa opposite Cliff Palace and unearthed Sun Temple. Dr. J. Walter Fewkes, who conducted the exploration, believes that this was built about 1300 A. D. and marks the final stage in Mesa Verde development.

Sun Temple was a most important discovery. It marked a long advance toward civilization. It occupied a commanding position convenient to many large inhabited cliff dwellings. Its masonry showed growth in the art of construction. Its walls were embellished by geometrical figures carved in rock.

New types of ruins antedating by centuries those of the Cliff Dwellers have been found more recently. The new park museum contains exhibits of the artifacts of all these cultural types.



Drawing Showing Constructive Detail of Sun Temple



Model of Far View House

Photograph by George L. Beam

Excavating Far View House on the Top of the Mesa

Spruce Tree House Hides Under a Huge Overhanging Cliff

THE PRINCIPAL DWELLINGS

CLIFF PALACE is the most celebrated of the Mesa Verde ruins because it is the largest and most prominent. Others are no less interesting and important. Spruce Tree House is next in size; Balcony House and Square Tower House are equally well preserved. There are hundreds of others, some of which have yet to be thoroughly explored; probably some are still undiscovered.

Cliff Palace is three hundred feet long; Spruce Tree House two hundred and sixteen. Cliff Palace contained over two hundred rooms; Spruce Tree House a hundred and fourteen. Spruce Tree House originally had three stories. Its population was probably three hundred and fifty.

The Round Tower in Cliff Palace is an object of unusual interest.

The kivas or ceremonial rooms were usually round, subterranean rooms of more or less uniform size, construction, and arrangement. Except in a few notable cases they were entered by means of a ladder through the roof or hatchway.

North Court of Spruce Tree House

Photograph by Arthur Chapman

Front Façade of Spruce Tree House

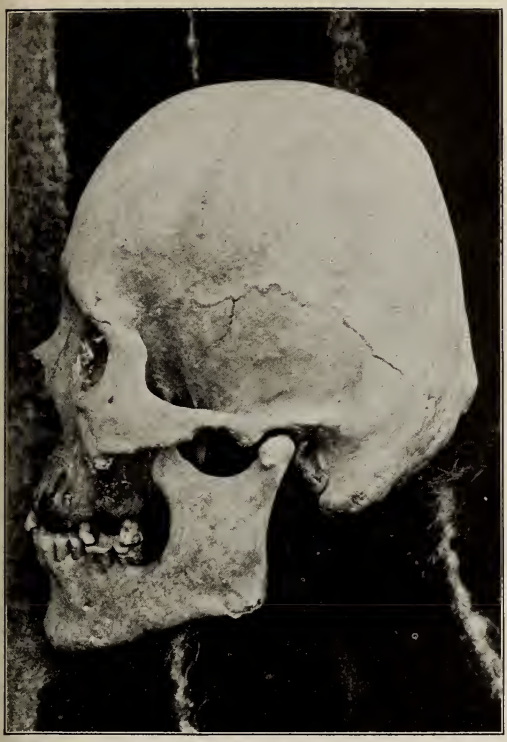
DESCENDING THE KNIFE-EDGE CLIFF TO PHOTOGRAPH A GOLDEN EAGLE'S NEST

Photograph by John P. Dods

MOST OF MESA VERDE'S TRAVEL IS BY MOTOR

Photograph by John P. Dods

NAVAJO WEAVERS COME TO THE PARK TO TRADE



Photographs by J. L. Nusbaum

TYPICAL SKULLS OF PREHISTORIC MAN FOUND IN THE MESA VERDE

The use of an unpadded cradle-board in childhood flattened the rear of the skull, giving unusual breadth to the face. Nordenskiöld concludes that the race was fairly robust, with heavy skeletons and strong muscular processes. The facial bones are well developed and lower jaw heavy

MESA VERDE'S NATURAL SCENERY

MESA VERDE NATIONAL PARK is in the extreme southwestern corner of Colorado and is reached from the rail points of Mancos, Colorado, and Gallup, New Mexico, by motor stage or private automobile. The finest of the scenic mountain highways of Colorado invite the motorist visiting this area, and the highway from Gallup across the Navajo Indian Reservation is excellent.

Apart from the ruins the country is one of spectacular beauty and weird charm. As one ascends the mesa tremendous expanses of the diversified terrain of the adjacent corners of the States of Colorado, Utah, New Mexico, and Arizona come into view—the snow covered La Platas, San Juans, and Ricos, of Colorado; the La Sals and Blues of Utah; the Carrizos of Arizona, and the Lukachukais, Tunichas, and Chuskas of the Navajo Reservation of New Mexico, with the great monolith of Shiprock, fifty miles distant, basking in the foreground, like a windjammer under full sail.

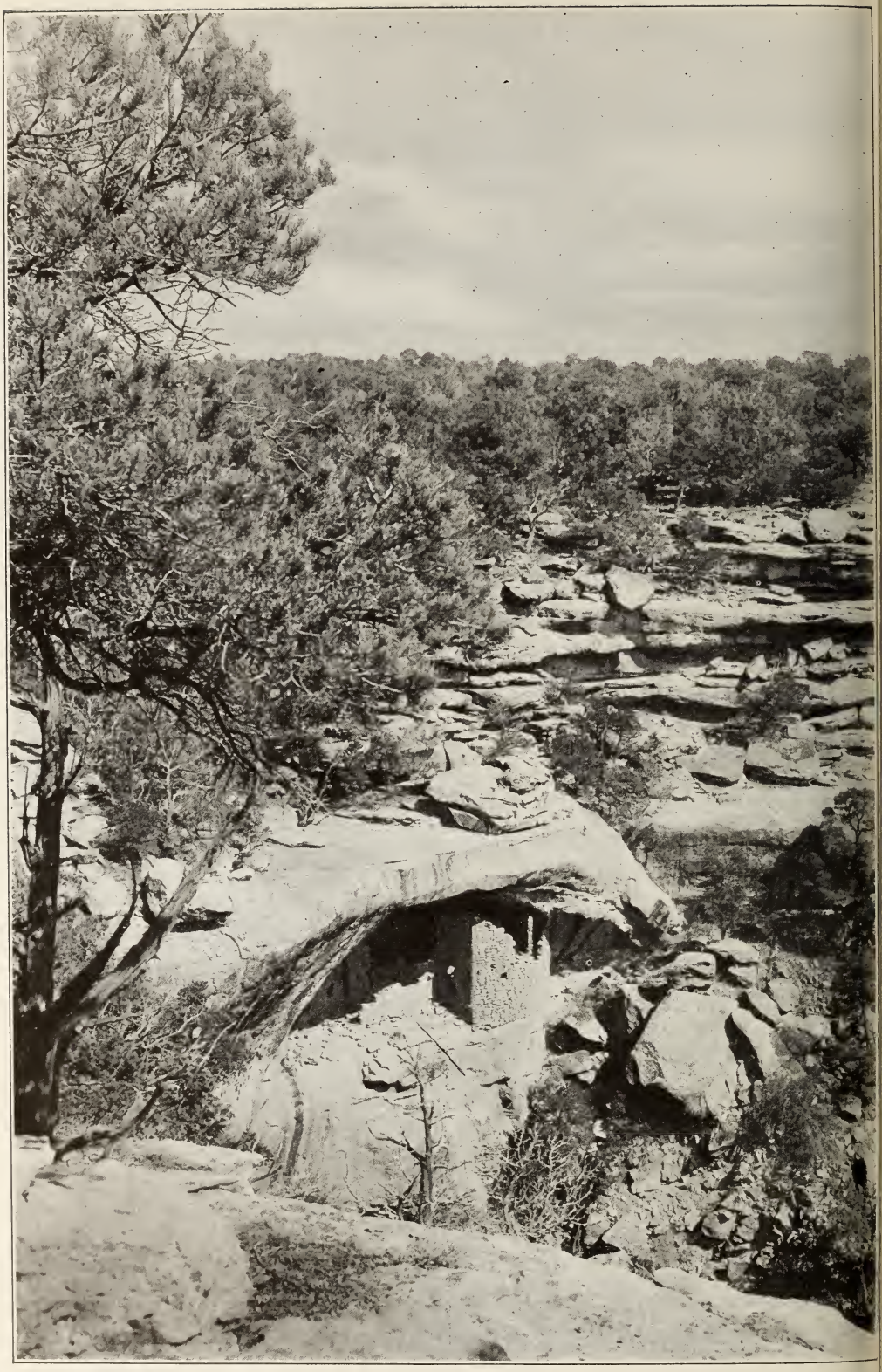
Photograph by F. C. Jeep

THE TRAIL TO BALCONY HOUSE

THE ENTRANCE TO BALCONY HOUSE

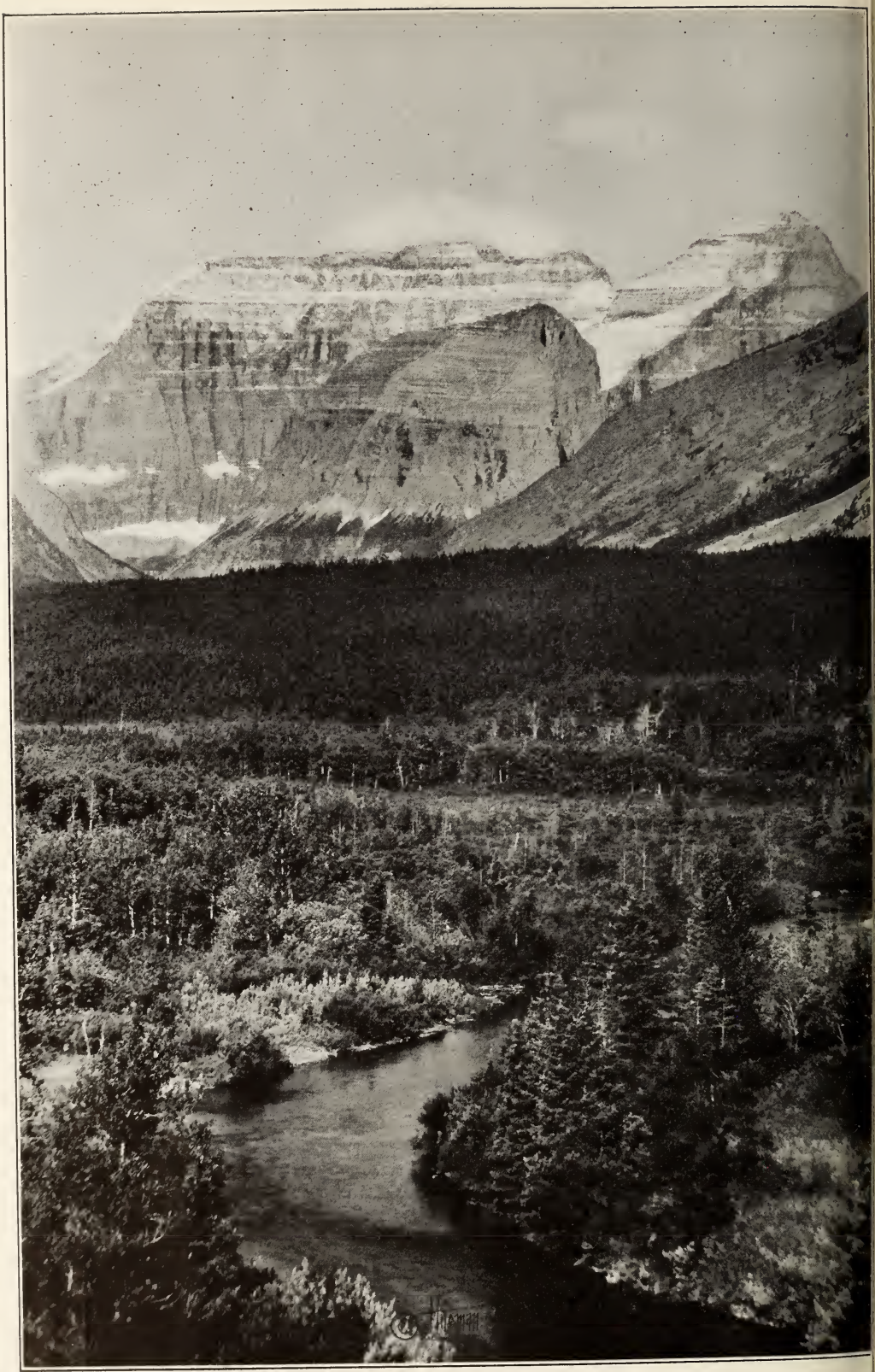
Photograph by Pen Dike Studio

Balcony House Is One of the Most Interesting and Best Preserved



THE CLIFF DWELLERS UTILIZED ALL PROTECTED SPACE WITHIN THE CAVES

GLACIER NATIONAL PARK



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MOUNT CLEVELAND, HIGHEST SUMMIT IN GLACIER

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GUNSIGHT PASS FROM SHORE OF GUNSIGHT LAKE

AN ALPINE PARADISE

NOTWITHSTANDING the sixty glaciers from which it derives its name, the Glacier National Park is chiefly remarkable for its picturesquely modeled peaks, the unique quality of its mountain masses, its gigantic precipices, and the romantic loveliness of its wo hundred and fifty lakes.

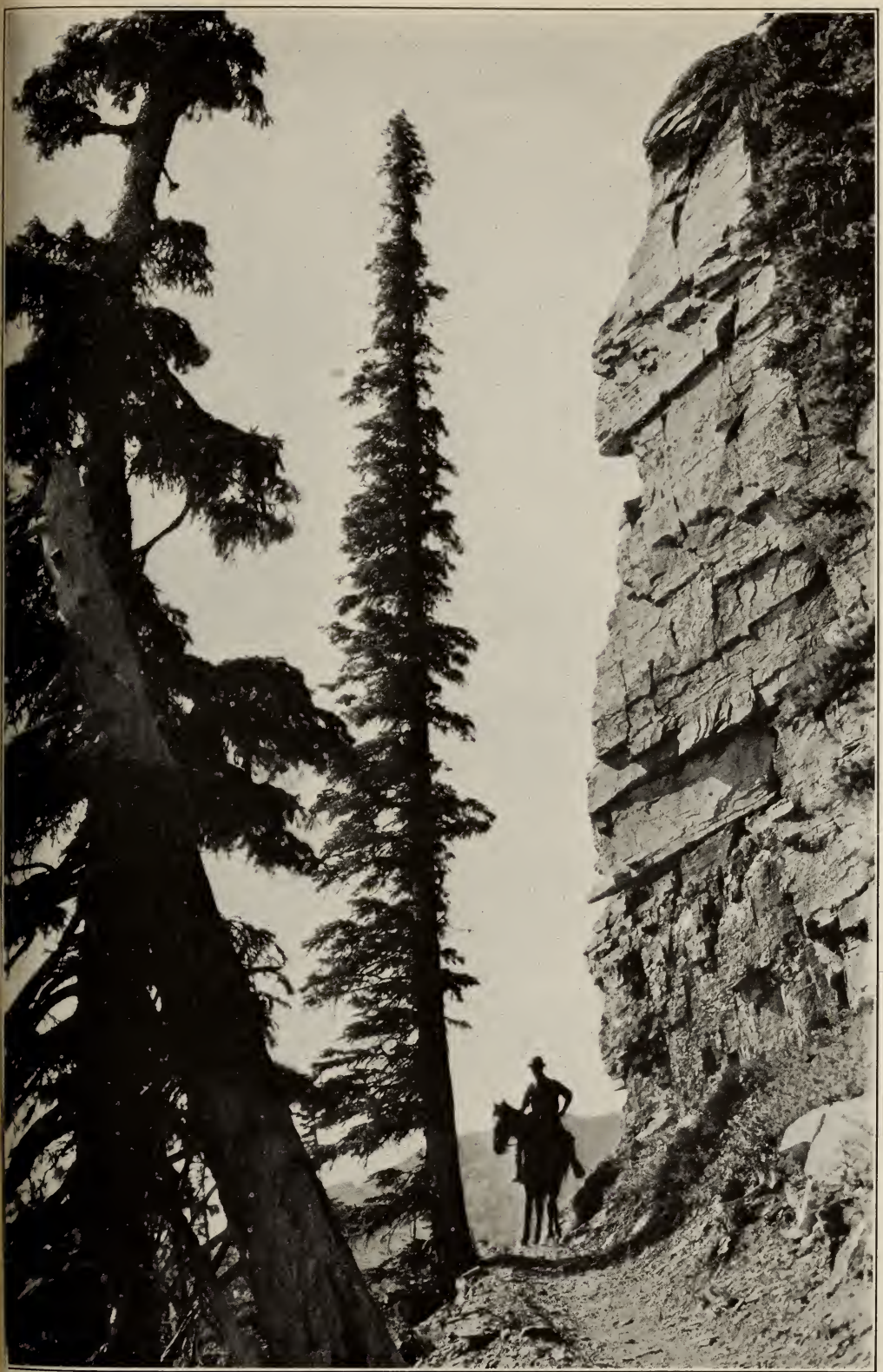
Though most of our national parks possess similar general features in addiion to those which sharply differentiate each from every other, the Glacier Vational Park shows them in special abundance and unusually happy combiation. In fact, it is the quite extraordinary, almost sensational, massing of hese scenic elements which gives it its marked individuality.

The broken and diversified character of this scenery, involving rugged ıountain tops bounded by vertical walls sometimes more than four thousand et high, glaciers perched upon lofty rocky shelves, unexpected waterfalls of eculiar charm, rivers of milky glacier water, lakes unexcelled for sheer beauty y the most celebrated of sunny Italy and snow-topped Switzerland, and grandly mbered slopes sweeping into valley bottoms, offer a continuous yet ever hanging series of inspiring vistas not to be found in such luxuriance and perction elsewhere.

Glacier National Park lies in western Montana, abutting the Canadian ɔundary. Waterton Lakes Park joins it on the Canadian side.

Photograph by Beatrix Barber

CRACKER LAKE AND SIYEH GLACIER



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SCARFACE POINT, ON THE GARDEN WALL TRAIL

Photograph by National Park Service

Photograph by Fred H. Kiser, Portland, Oreg.

FAMOUS GRINNELL LAKE WITH THE PICTURESQUE GRINNELL GLACIER ABOVE, WHENCE IT DERIVES ITS PARTLY MILKY GLACIAL WATERS

On the left is Gould Mountain. Grinnell Mountain, on the right, is one of the noblest in America. This region is a favorite haunt of Rocky Mountain goats

MAKING A NATIONAL PARK

HOW nature, just how many millions of years ago no man can estimate, made the Glacier National Park is a stirring story.

Once this whole region was covered with the prehistoric sea. The earthy sediments deposited by this water hardened into rocky strata. If you were in the park to-day you would see broad horizontal streaks of variously colored rock in the mountain masses thousands of feet above you. They are discernible in the photographs in this book. They are the very strata that the waters deposited in their depths in those far-away ages. How they got from the seas' bottoms to the mountains' tops is the story.

Photograph by Ellis Prentice Cole

ICEBERG LAKE WHERE FLOES DRIFT IN AUGUST

In the settling of the earth's masses into their present shape, mountain ranges have arisen from the sea by internal pressures. Just as the squeezed orange bulges in places so this region was forced upward. Then it cracked and the western edge of the earth's skin was thrust far over the eastern edge.

The edge thus thrust over was many thousands of feet thick and disclosed all the geological strata which had been deposited at that time. In the many centuries since all these strata have been washed away except the bottom layer of the overthrust skin. The rock thus disclosed is at least eight millions of years old. It is the same rock as the Grand Canyon. Glacier National Park is the Canadian Rockies done in Grand Canyon colors. Frost and rain and glaciers have marvelously carved it.

Photograph by A. S. Thiri

THE CIRCULAR WALL ON THE LEFT INCLOSES ICEBERG LAKE. THE ENORMOUS CIRQUE ON THE RIGHT, WITH LAKE HELEN SHOWN IN THE LOWER RIGHT-HAND CORNER, IS THE SOURCE OF THE SOUTH FORK OF THE BELLY RIVER. THE PHOTOGRAPH REMARKABLY ILLUSTRATES THE WORKMANSHIP OF ANCIENT GLACIERS THROUGHOUT THE PARK

THE CARVING OF GLACIER

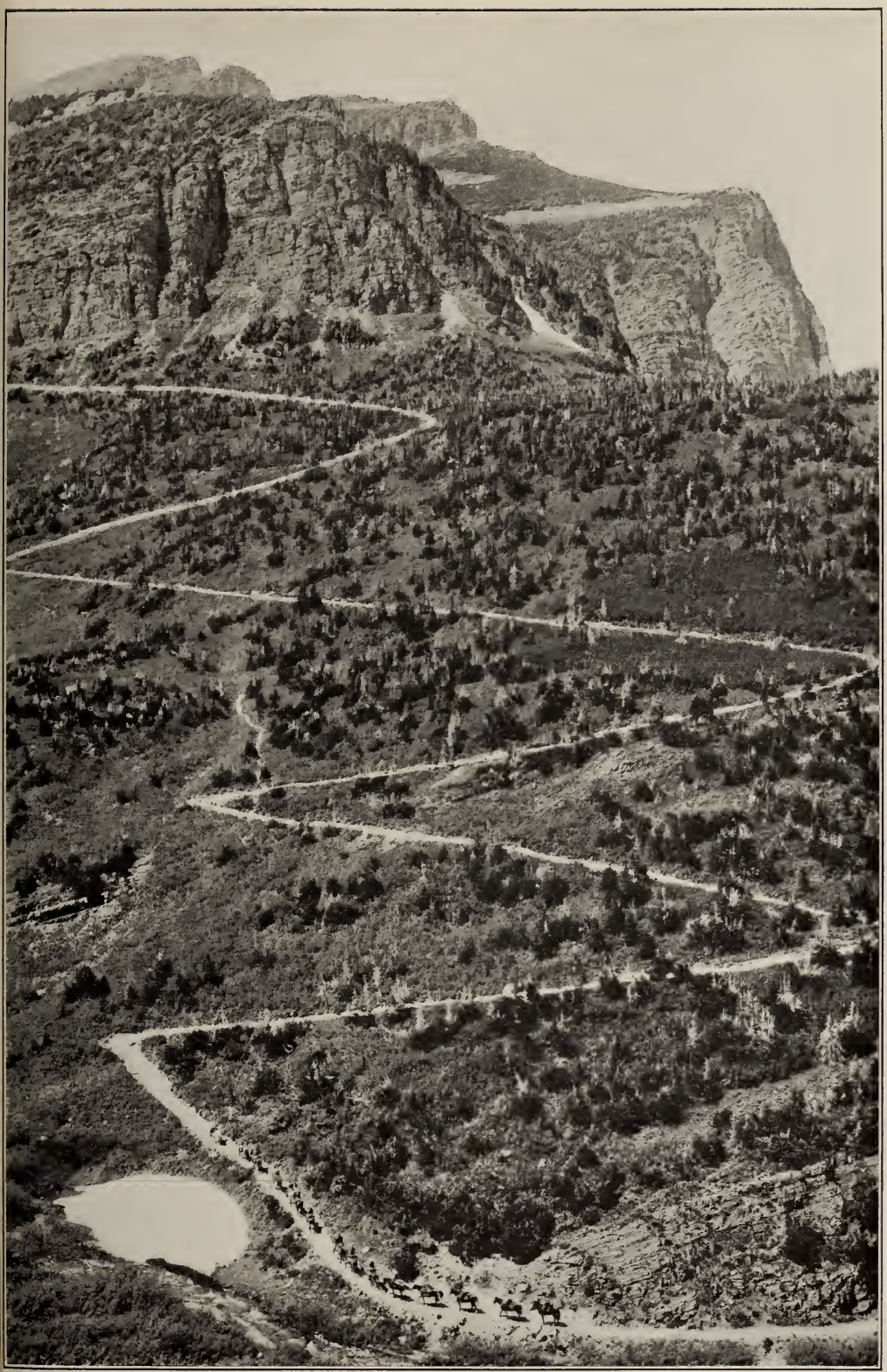
THE titanic overthrust which makes Glacier what it is was not accomplished all at once. The movement covered millions of years; change might even have been imperceptible in the life of one living there—though this was long before man. And during these same many millions of years frost and water and wind and glacier erosion were wiping off the upper strata and carving the ancient rocks that still remain into the thing of beauty that Glacier is to-day.

To picture this region, imagine a chain of very lofty mountains twisting about like a worm, spotted with snow fields and bearing glistening glaciers. Imagine them flanked everywhere by lesser peaks and tumbled mountain masses of smaller size in whose hollows lie the most beautiful lakes you have ever dreamed of.

Those who have seen the giant glaciers of Mount Rainier or the Alps will here see what glaciers of much greater size accomplished in ages past. Iceberg Lake, for example, is a mighty bowl shaped like a horseshoe, with sides more than two thousand feet high. A glacier hollowed it. Just north of it, the Belly Glacier hollowed another mammoth bowl of even greater depth; the wall dividing them is seen in the photograph on this page. Vast pits such as these were dug by prehistoric glaciers into both sides of the mountains. Often they nearly met, leaving precipitous walls. Sometimes they met; thus were created the passes.

Photograph by A. J. Baker

CIRQUE AT THE HEAD OF CUT BANK RIVER, SHOWING MOUNT MORGAN



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SWITCHBACKS ON SWIFTCURRENT MOUNTAINS

ITS LAKES AND VALLEYS

Photograph by Fred H. Kiser, Portland, Oreg.

THE supreme glory of the Glacier National Park is its lakes. The world has none to surpass, perhaps few to equal them. Some are valley gems grown to the water's edge with forests. Some are cradled among precipices. Some float ice fields in midsummer.

From the Continental Divide seven principal valleys drop precipitously upon the east, twelve sweep down the longer western slopes. Each valley holds between its feet its greater lake to which are tributary many smaller lakes of astonishing wildness.

On the east side St. Mary Lake is destined to world-wide celebrity, but so also is Lake McDonald on the west side. These are the largest in the park.

But some, perhaps many, of the smaller lakes are candidates for beauty's highest honors. Of these, Lake McDermott with its minaretted peaks stands first—perhaps because best known, for here is one of the finest hotels in any national park and a luxurious camp.

Upper Two Medicine Lake is another east-side candidate widely known because of its accessibility, while far to the north the Belly River Valley, difficult to reach and seldom seen, holds lakes, fed by eighteen glaciers, which will compare with Switzerland's noblest.

The west-side valleys north of McDonald constitute a little-known wilderness of the earth's choicest scenery, destined to future appreciation.

The Continental Divide is usually crossed by the famous Gunsight Pass Trail, which skirts giant precipices and develops sensational vistas in its serpentine course.

Photograph by U. S. Reclamation Service

BIRTH OF A CLOUD ON THE SIDE OF MOUNT ROCKWELL, TWO MEDICINE LAKE

Photograph by U. S. Reclamation Service

EARLY MORNING CLOUD EFFECTS AT TWO MEDICINE LAKE
Romantic Rising-Wolf Mountain is seen in middle distance

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IT IS THE ROMANTIC, ALMOST SENSATIONAL MASSING OF EXTRAORDINARY SCENIC E[illegible]ENTS WHICH GIVES THE GLACIER NATIONAL PARK ITS MARKED INDIVIDUALITY

Beautiful Lake McDermott, in Many Gl[illegible] region, Many Glacier Hotel to the left

Copyright by Hileman

CLIMBING STARK PEAK WITH GUIDE

Copyright by Hileman

PARTY ON MOUNT STARK WITH GUIDE

COMFORT AMONG GLACIERS

GLACIER NATIONAL PARK has two railroad entrances. From Glacier Park, the eastern entrance, auto stages take the visitor to Two Medicine, McDermott, and St. Mary Lakes, where launch rides may be taken. Glacier Park Hotel at the railway station, and Many Glacier Hotel at Lake McDermott, are modern hotels. At Two Medicine Lake, Cut Bank Creek, St. Mary Lake, and Lake McDermott are comfortable chalets reached by auto or by auto and launch. Granite Park and Sperry Chalets are reached only by horseback or hiking, as are the camps at Crossley Lake and Waterton Lake, and Fifty Mountain Camp on Flat Top Mountain.

The visitor choosing the west entrance, at Belton, will find camps and chalets there, and auto service to the hotel at the head of beautiful Lake McDonald. This trip also may be made by a combination of automobile and boat. Lake McDonald Camp and Skyland Camps, both reached by auto, provide comfortable accommodations. Motor travel will not be possible between the east and west sides until the Transmountain Road is completed, probably about 1930.

THE FISHERMAN'S PARADISE

Photograph by U. S. Reclamation Service

TO THE VICTOR BELONG THE SPOILS

Mary Roberts Rinehart lunching after a morning's trouting on Flathead River

Copyright by Hileman

BEAUTIFUL LAKE MCDONALD, LOOKING NORTHEAST—MOUNT CANNON IN THE MIDDLE DISTANCE

Photograph by U. S. Reclamation Service

THE COMFORTABLE HOTEL NEAR THE HEAD OF LAKE MCDONALD

Photograph by National Park Service

LAKE JANET AND PORCUPINE RIDGE

Copyright by Hileman

AVALANCHE LAKE, FED FROM SPERRY GLACIER, LIES IN A CIRQUE WHOSE PRECIPICES ARE THOUSANDS OF FEET DEEP

Photograph by U. S. Geological Survey

HEAD OF BEAUTIFUL BOWMAN LAKE

Photograph by U. S. Geological Survey

KINTLA GLACIER ON THE FLANK OF KINTLA PEAK

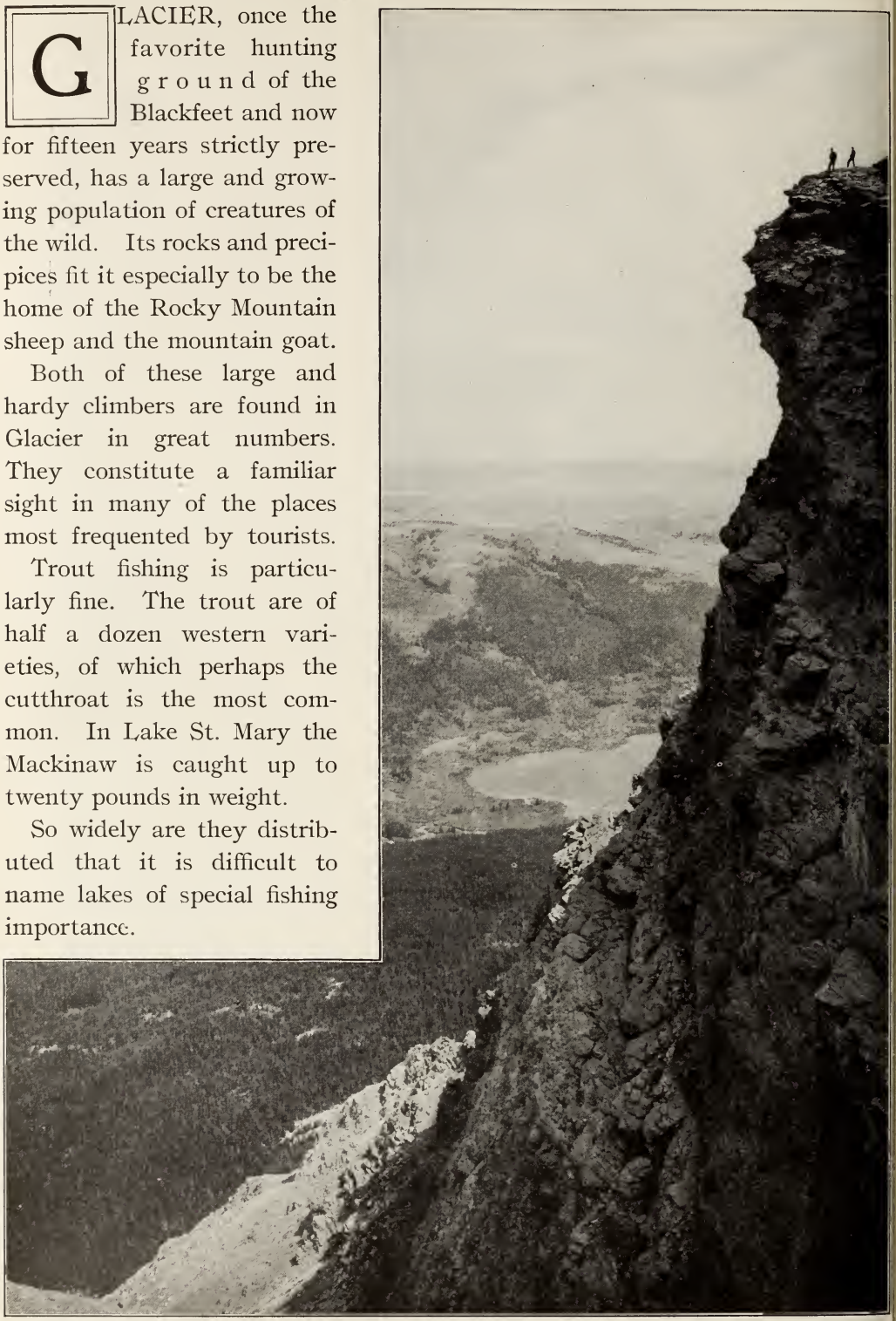
CREATURES OF THE WILD

GLACIER, once the favorite hunting ground of the Blackfeet and now for fifteen years strictly preserved, has a large and growing population of creatures of the wild. Its rocks and precipices fit it especially to be the home of the Rocky Mountain sheep and the mountain goat.

Both of these large and hardy climbers are found in Glacier in great numbers. They constitute a familiar sight in many of the places most frequented by tourists.

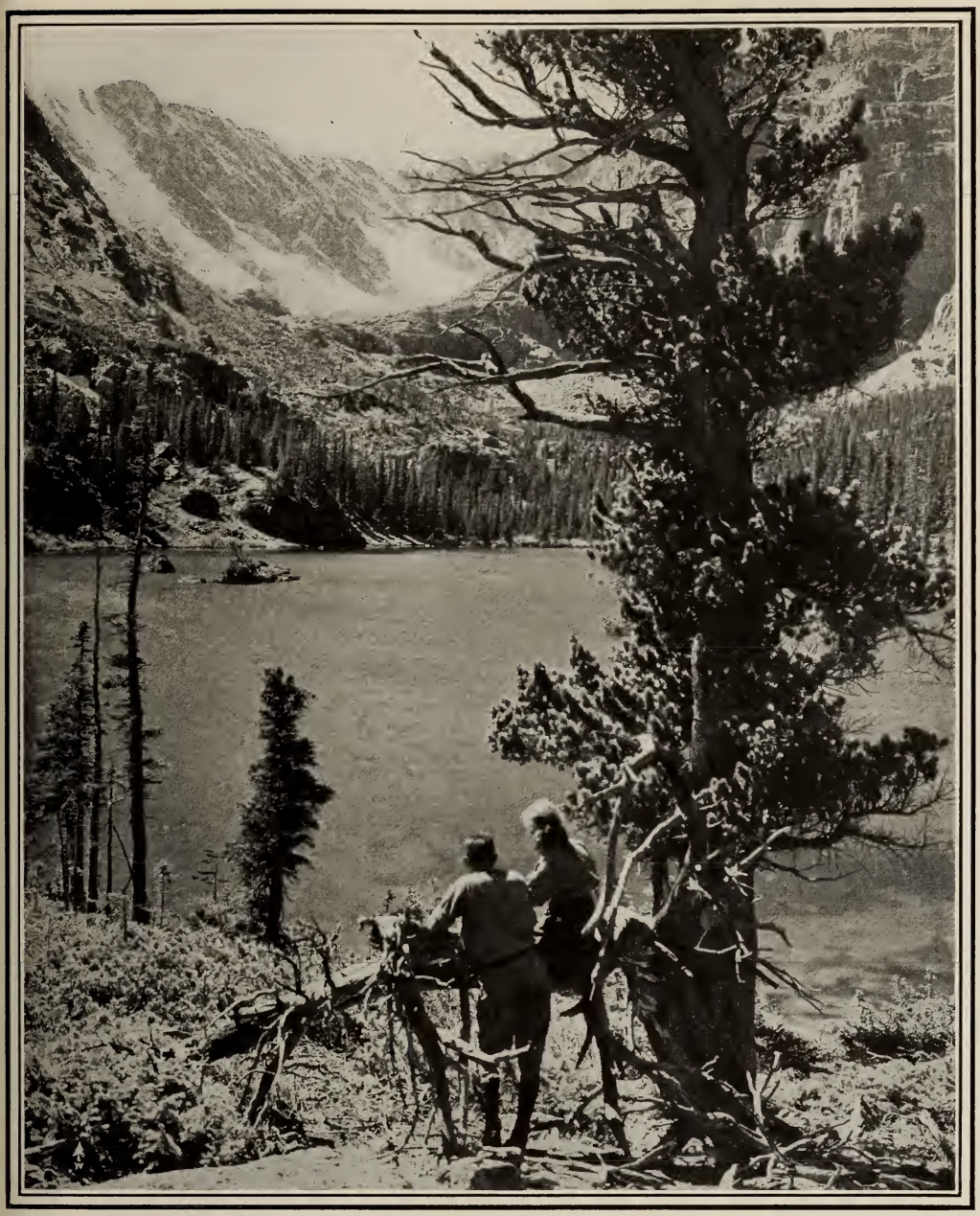
Trout fishing is particularly fine. The trout are of half a dozen western varieties, of which perhaps the cutthroat is the most common. In Lake St. Mary the Mackinaw is caught up to twenty pounds in weight.

So widely are they distributed that it is difficult to name lakes of special fishing importance.



Photograph by Fred H. Kiser, Portland, Oreg.

SUMMIT OF APPISTOKI MOUNTAIN



THE ROCKY MOUNTAIN NATIONAL PARK

Copyright by Wiswall Brothers, Denver

SEEN FROM THE EAST, THIS RANGE RISES IN DARING RELIEF, CRAGGY IN OUTLINE, SNOW-CLAD, AWE-INSPIRING
This photograph is from the village of Estes Park and exhibits summits lying to the north of Longs Peak

Photograph by F. J. Francis

Crossing Fall River Pass on June 15

"TOP OF THE WORLD"

FOR many years the Mecca of eastern mountain lovers has been the Rockies. For many years the name has summed European ideas of American mountain grandeur. Yet it was not until 1915 that a particular section of the enormous area of magnificent and diversified scenic range thus designated was chosen as the representative of the noblest qualities of the whole. This is the Rocky Mountain National Park.

And it is splendidly representative. In nobility, in calm dignity, in the sheer glory of stalwart beauty, there is no mountain group to excel the company of snow-capped veterans of all the ages which stands at everlasting parade behind its grim, helmeted captain, Longs Peak.

There is probably no other scenic neighborhood of the first order which combines mountain outlines so bold with a quality of beauty so intimate and refined. Just to live in the valleys in the eloquent and ever-changing presence of these carved and tinted peaks is itself satisfaction. But to climb into their embrace, to know them in the intimacy of their bare summits and their flowered, glaciated gorges, is to turn a new and unforgettable page in experience.

The park straddles the Continental Divide at a point of supreme magnificence. Its eastern gateway is beautiful Estes Park, a valley village of many hotels from which access up to the most noble heights and into the most picturesque recesses of the Rockies is easy and comfortable. Its western entrance is Grand Lake.

Photograph by Agnes W. Vaille

LONGS PEAK, FROM LAKE HAIYAHA

THE KING AND HIS KINGDOM

THE Snowy Range lies, roughly speaking, north and south. From valleys 8,000 feet high the peaks rise to 12,000 and 14,000 feet. Longs Peak measures 14,255 feet.

The gentler slopes are on the west, a region of loveliness, heavily wooded, diversified by gloriously modeled mountain masses, and watered by many streams and rock-bound lakes. The western entrance, Grand Lake, is a thriving center of hotel and cottage life.

On the east side the descent from the Continental Divide is steep in the extreme. Precipices two or three thousand feet plunging into gorges carpeted with snow patches and wild flowers are common. Seen from the east-side villages, this range rises in daring relief, craggy in outline, snow-spattered, awe-inspiring.

Midway of the range and standing boldly forward from its western side, Longs Peak rears his lofty, square-crowned head. A veritable King of Mountains—stalwart, majestic.

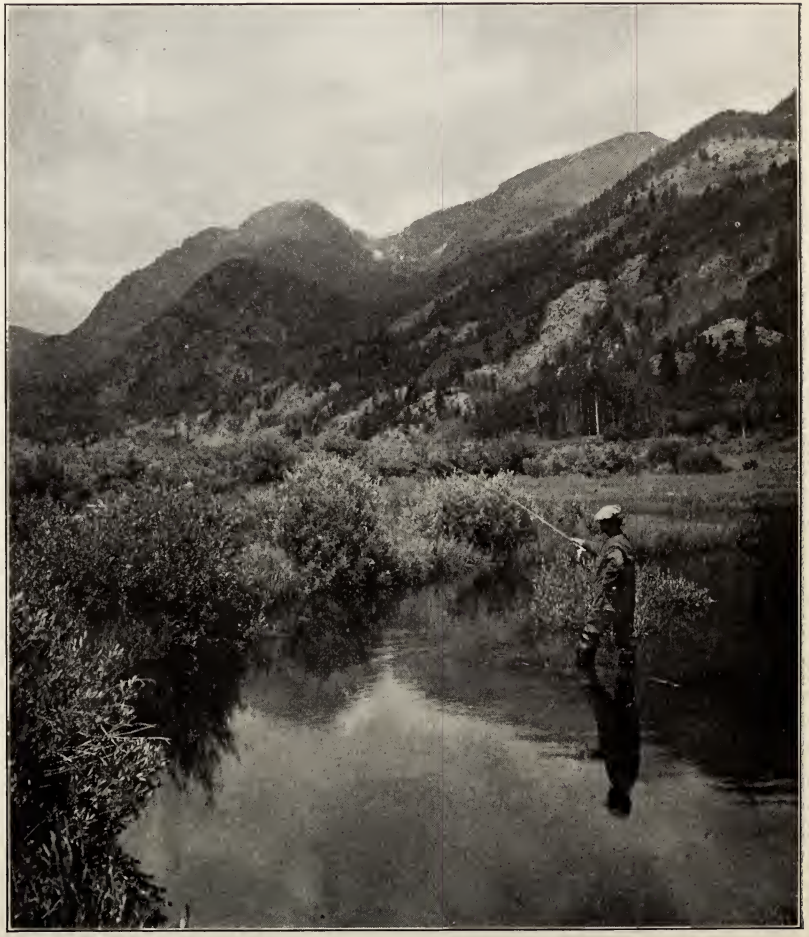
Amazingly diversified is this favored region.

The valleys are checkered with broad, flowery opens and luxuriant groves of white-stemmed aspens and dark-leaved pines. Singing rivers and shining lakes abound. Frost-sculptured granite cliffs assume picturesque shapes. Always some group of peaks has caught and held the wandering clouds.

Very different are the mountain vistas. From the heights stretches on every hand a tumbled sea of peaks. Dark gorges open underfoot. Massive granite walls, torn from their fastenings in some unimaginable upheaval in ages before man, expose their gray faces. Far in the distance lie patches of molten silver which are lakes, and threads of silver which are rivers, and mists which conceal far-off valleys. On sunny days lies to the east a dim sea which is the Great Plain.

MOUNT COPELAND

A Glimpse of the Park, Including Twin Sisters



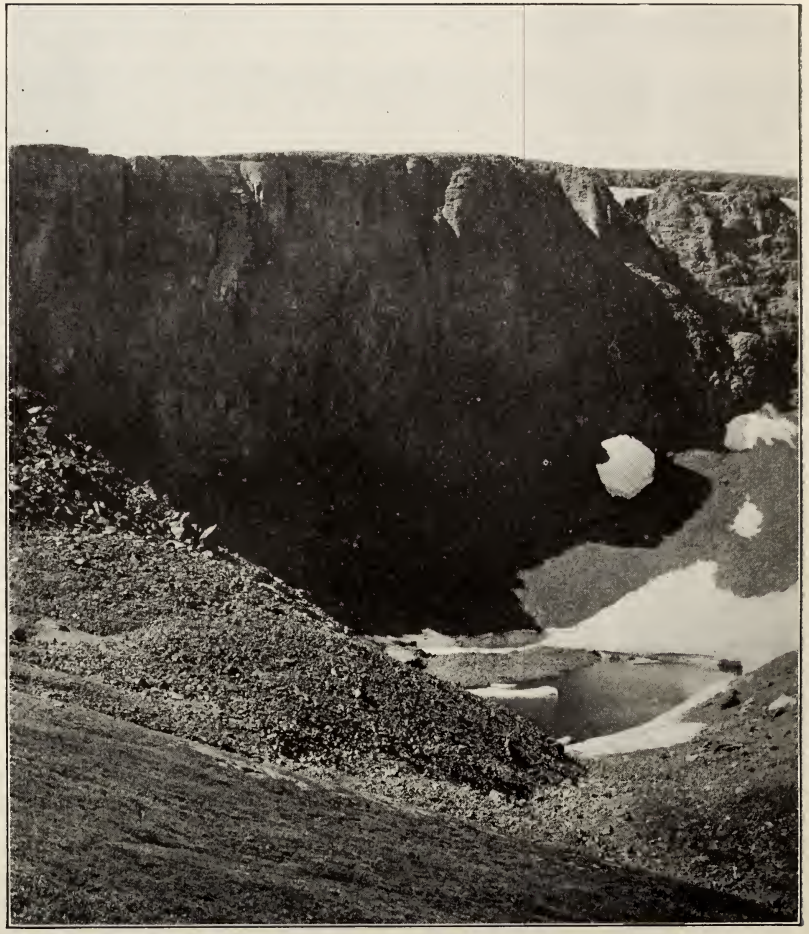
Late Afternoon Yields Good Catches

Photograph by U. S. Reclamation Service

TO KNOW THEM IN THE INTIMACY OF THEIR BARE SUMMITS IS TO TURN AN UNFORGETTABLE PAGE IN THE BOOK OF EXPERIENCE
Looking from Flattop across the Tyndall Glacier Gorge to the windy summit of Hallett Peak

Photograph by J. Burns

ICE FLOES BREAKING FROM THE HALLETT GLACIER



Photograph by U. S. Reclamation Service

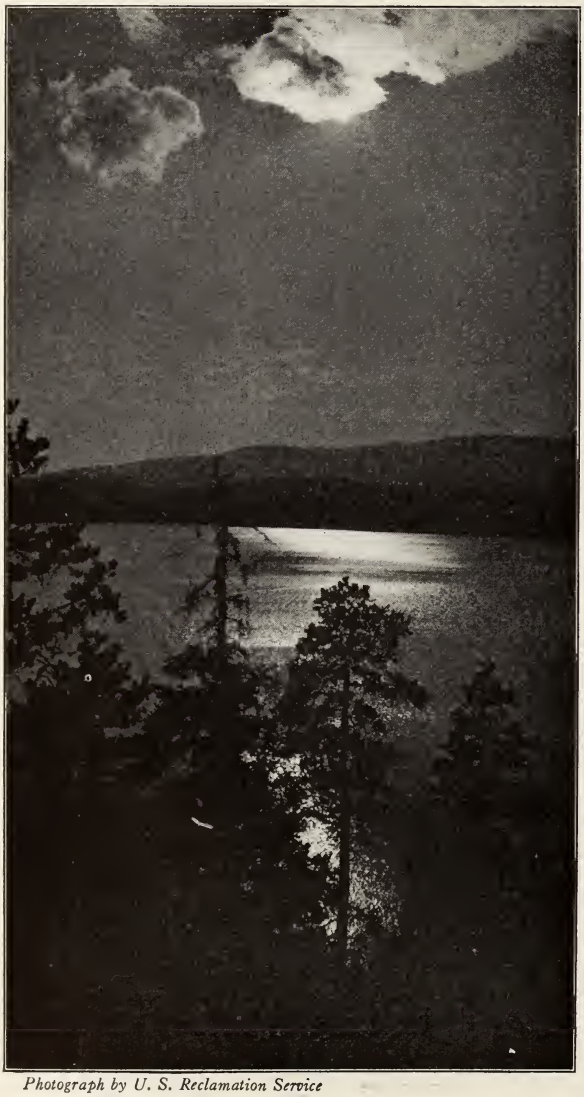
ICEBERG LAKE LIES IN A GLACIAL CIRQUE BELOW TRAIL RIDGE

Photograph by Willis T. Lee

ANDREWS GLACIER, ONE OF THE LARGEST IN ROCKY MOUNTAIN NATIONAL PARK

Photograph by Enos Mills

RECORDS OF THE GLACIERS



Photograph by U. S. Reclamation Service

MOONLIGHT ON GRAND LAKE

A FEATURE of this region is the readability of its records of glacial action during the ages when America was making. In few other spots do these evidences, in all their variety, make themselves so prominent to the casual eye.

There is scarcely any part of the eastern side where some enormous moraine does not force itself upon passing attention. One of the valley villages, Moraine Park, is so named from a moraine built out for miles across the valley's floor by ancient parallel glaciers.

There are innumerable sparkling lakes, many of them nestling in bowls of solid granite that were hollowed out by glaciers. The gorges are walled in by spectacular glacial cirques or amphitheaters.

In short, this park is itself a primer of glacial geology whose simple, self-evident lessons immediately disclose the key to one of nature's chiefest scenic secrets.

Photograph by Willis T. Lee

LONGS PEAK FROM BOULDER FIELD

At the extreme right is seen the "Keyhole" through which the summit is reached

Photograph by F. P. Clatworthy

THE FALL RIVER ROAD, LEADING TO THE "TOP OF THE CONTINENT"

Photograph by John King Sherman

THE CHISELED WESTERN WALL OF LOCH VALE

PRECIPICE-WALLED GORGES

Photograph by John King Sherman

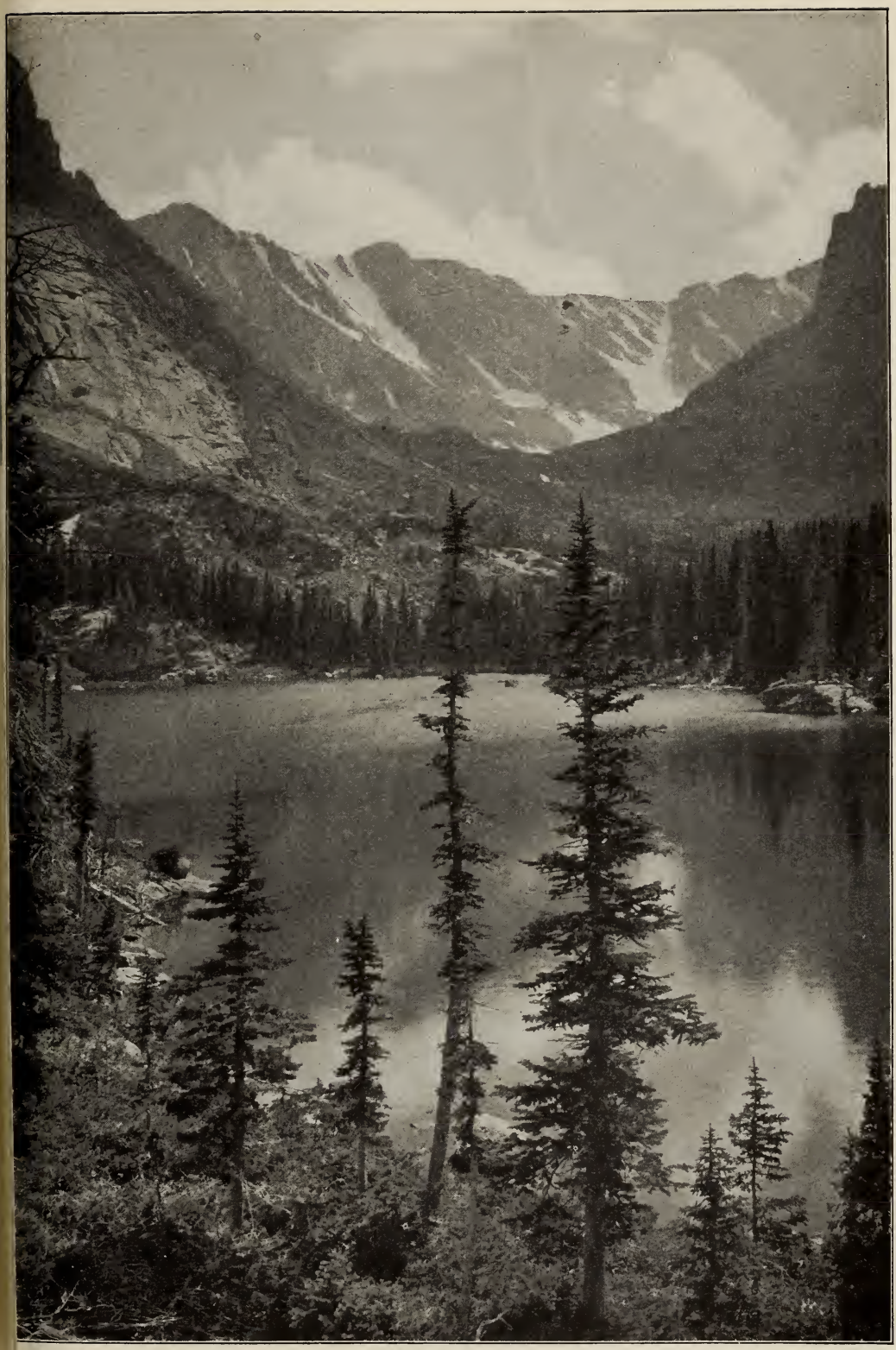
CHASM LAKE AND LONGS PEAK

A DISTINGUISHED feature of the park is its profusion of cliff-cradled glacier-watered valleys unexcelled for wildness and the glory of their flowers. Here grandeur and romantic beauty compete.

These valleys lie in two groups, one north, the other south of Long Peak, in the angles of the main range; the northern group called the Wild Gardens, the southern group called the Wild Basin.

There are few spots, for instance, so impressively beautiful as Loch Vale, with its three shelved lakes lying two thousand feet sheer below Taylors Peak. Adjoining is Glacier Gorge at the foot of the precipitous north slope of Long Peak, holding in rocky embrace its own group of three lakelets.

The Wild Basin, with its wealth of lake and precipice, still remains unexploited and known to few.



Few Mountain Gorges Are So Impressively Beautiful as Loch Vale

Copyright by F. P. Clatworthy

NYMPH LAKE AND HALLETT PEAK

Photograph by Wiswall Brothers

SKY POND AND TAYLOR PEAK, WILD GARDENS

Photograph by Enos Mills

"The End of the Trail"

Photograph by George C. Barnard, Denver

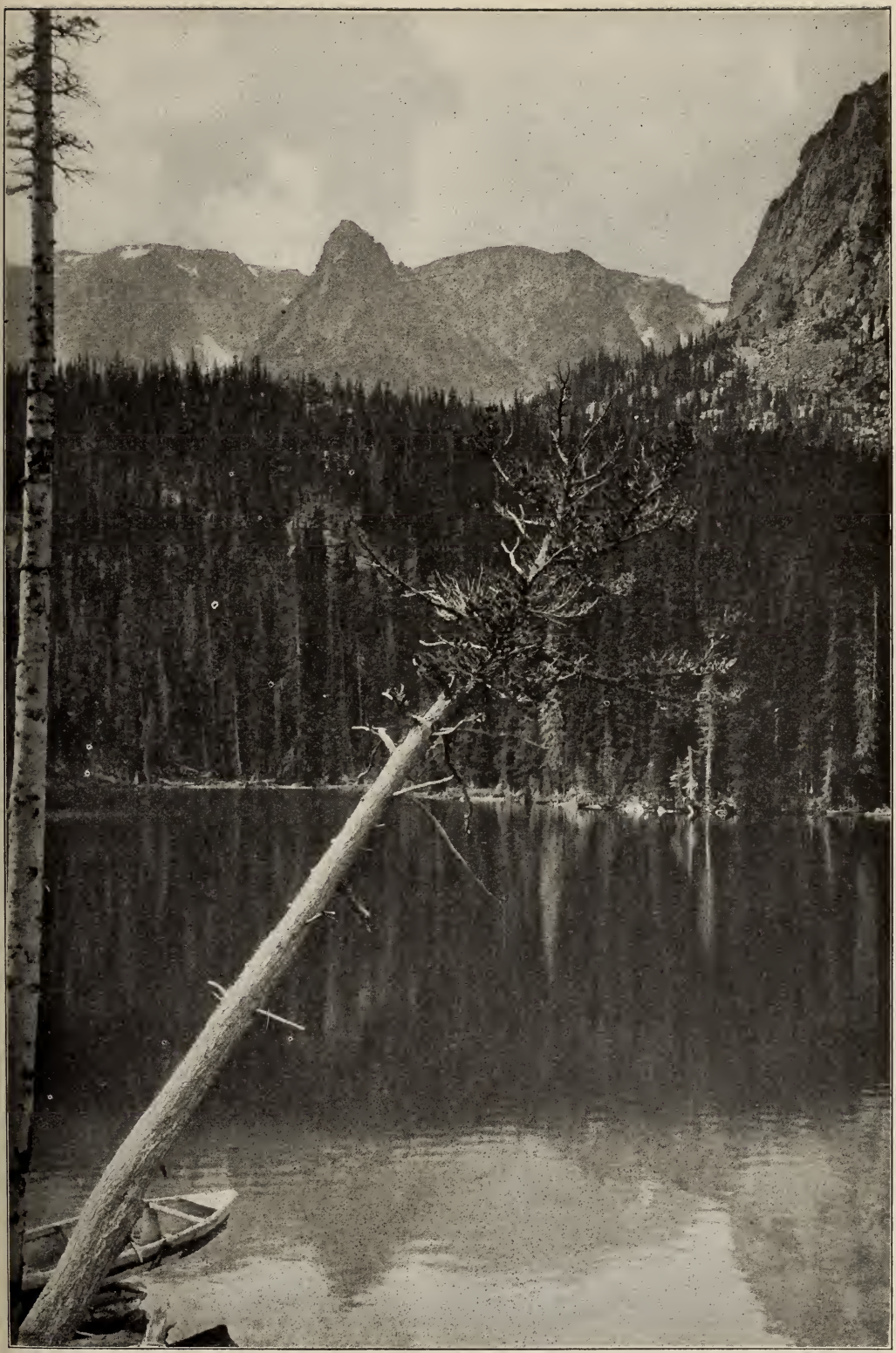
An Ideal Country for Winter Sports

Photograph by Wiswall Brothers

BLUEBIRD LAKE, WILD BASIN

Photograph by U. S. Reclamation Service

ODESSA LAKE IS ALMOST ENCIRCLED BY SNOW-SPATTERED SUMMITS



Photograph by U. S. Reclamation Service

SPRUCE-GIRDLED FERN LAKE, SHOWING LITTLE MATTERHORN IN MIDDLE DISTANCE

METROPOLIS *of* BEAVERLAND

Copyright by Wiswall Brothers, Denver

AN ASPEN THICKET TRAIL IS A PATH OF DELIGHT

THE visitor will not forget the aspens in the Rocky Mountain National Park. Their white trunks and branches and their luxuriant bright green foliage are never out of sight. A trail through an aspen thicket is a path of delight.

Because of the unusual aspen growths, the region is the favored home of beavers, who make the tender bark their principal food. Beaver dams block countless streams and beaver houses emerge from the still ponds above. In some retired spots the engineering feats of generations of beaver families may be traced in all their considerable range.

Nowhere is the picturesqueness of timber line more quickly and more easily seen. A horse after early breakfast, a steep mountain trail, an hour of unique enjoyment, and one may be back for late luncheon.

Eleven thousand feet up, the winter struggles between trees and icy gales are grotesquely exhibited.

The first sight of luxuriant Engelmann spruces creeping closely upon the ground instead of rising a hundred and fifty feet straight and true as masts is not soon forgotten. Many stems strong enough to partly defy the winters' gales grow bent in half circles. Others, starting straight in shelter of some large rock, bend at right angles where they emerge above it. Many succeed in lifting their trunks but not in growing branches except in their lee, thus suggesting great evergreen dust brushes.

Photograph by Enos Mills

BEAVER DAMS BLOCK COUNTLESS STREAMS

Photograph by F. J. Francis

WIND-TWISTED TREES AT TIMBER LINE

Midway of the Range, Longs Peak Rears His Stately, Square-Crowned Head; a Veritable King of Mountains Calmly Overlooking All His Realm

This is the very heart of the Rockies; few photographs so fully express the spirit of the Snowy Range

Photograph by U. S. Reclamation Service

THE STANLEY HOTEL AND MANOR

EASY TO REACH AND TO SEE

THE accessibility of the Rocky Mountain National Park is apparent by a glance at any map. Denver is less than thirty hours from St. Louis and Chicago, two days only from New York. Four hours from Denver will put you in Estes Park.

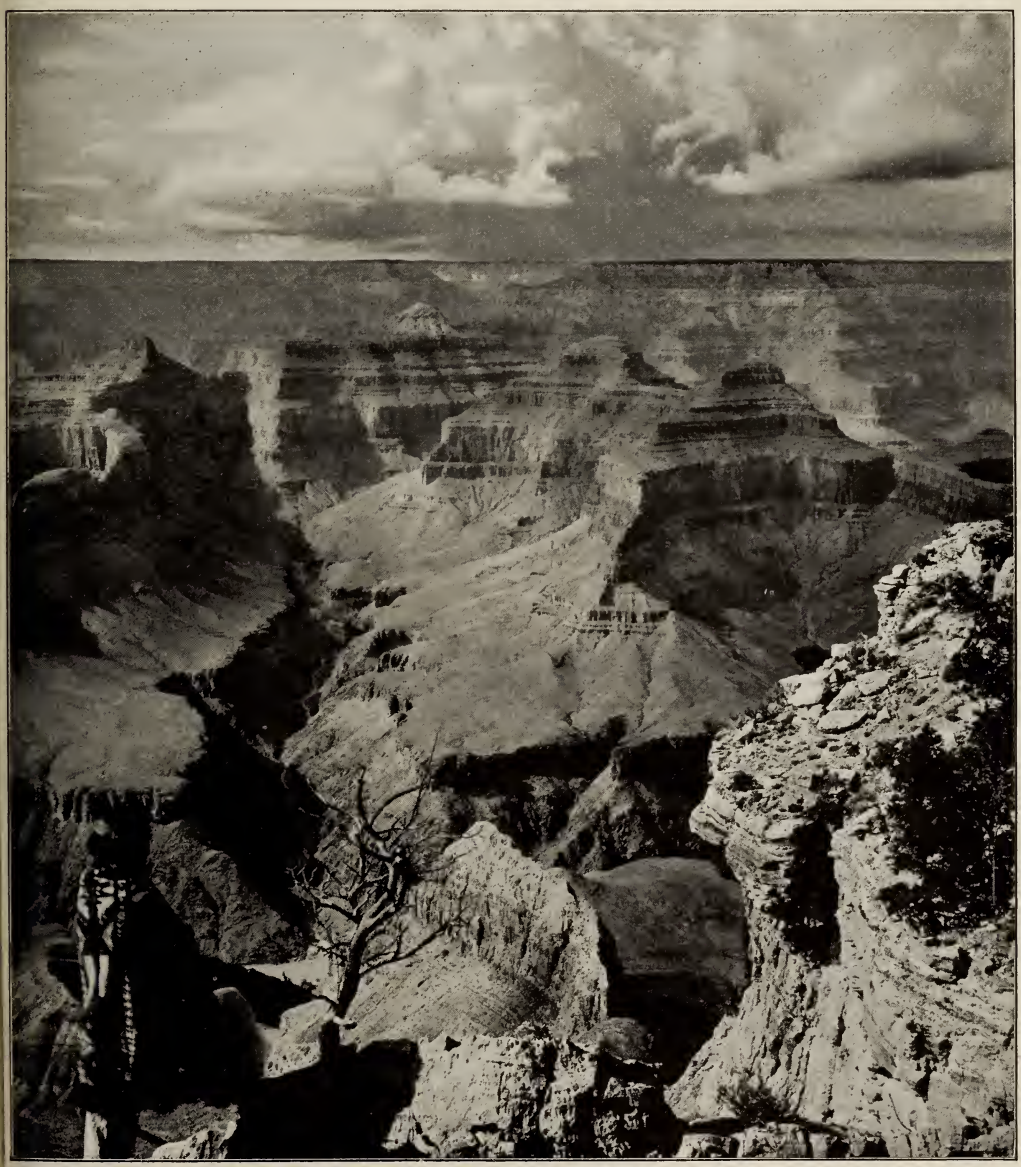
Once there, comfortable in one of its many hotels of varying range of tariff and the summits and the gorges of this mountain-top paradise resolve themselves into a choice between foot and horseback.

There are also a few most comfortable houses and several somewhat primitive camps within the park's boundaries at the very foot of its noblest scenery

Photograph by F. P. Clatworthy

GRAND LAKE

THE GRAND CANYON NATIONAL PARK



"By Far the Most Sublime of All Earthly Spectacles"
Charles Dudley Warner

Photograph by George R. King

"It Is Beyond Comparison—Beyond Description; Absolutely Unparalleled Throughout the Wide World."—Theodore Roosevelt

Photograph by Fred Harvey

Leaving El Tovar for a Scenic Trip

COLOSSUS *of* CANYONS

"MORE mysterious in its depth than the Himalayas in their height," writes Professor John C. Van Dyke, "the Grand Canyon remains not the eighth but the first wonder of the world. There is nothing like it."

Even the most superficial description of this enormous spectacle may not be put in words. The wanderer upon the rim overlooks a thousand square miles of pyramids and minarets carved from the painted depths. Many miles away and more than a mile below the level of his feet he sees a tiny silver thread which he knows is the giant Colorado.

He is numbed by the spectacle. At first he can not comprehend it. There is no measure, nothing which the eye can grasp, the mind fathom.

It may be hours before he can even slightly adjust himself to the titanic spectacle, before it ceases to be utter chaos; and not until then does he begin to exclaim in rapture.

And he never wholly adjusts himself, for with dawning appreciation comes growing wonder. Comprehension lies always just beyond his reach.

The Colorado River is formed by the confluence of the Grand and the Green Rivers. Together they gather the waters of three hundred thousand square miles. Their many canyons reach this magnificent climax in northern Arizona. The Grand Canyon became a national park in February, 1919.

Copyright by Fred Harvey

"A Pageant of Ghastly Desolation and Yet of Frightful Vitality, Such as Neither Dante Nor Milton in Their Most Sublime Conceptions Ever Even Approached."—William Winter

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"A Gigantic Statement for Even Nature to Make All in One Mighty Stone Word. Wildness So Godful, Cosmic, Primeval, Bestows a New Sense of Earth's Beauty and Size."—John Muir

Photograph by Henry Fuermann

The Rim Road Affords Many Glorious Views

BY SUNSET AND MOONRISE

"WHEN the light falls into it, harsh, direct, and searching," writes Hamlin Garland, "it is great, but not beautiful. The lines are chaotic, disturbing—but wait! The clouds and the sunset, the moonrise and the storm, will transform it into a splendor no mountain range can surpass. Peaks will shift and glow, walls darken, crags take fire, and gray-green mesas, dimly seen, take on the gleam of opalescent lakes of mountain water."

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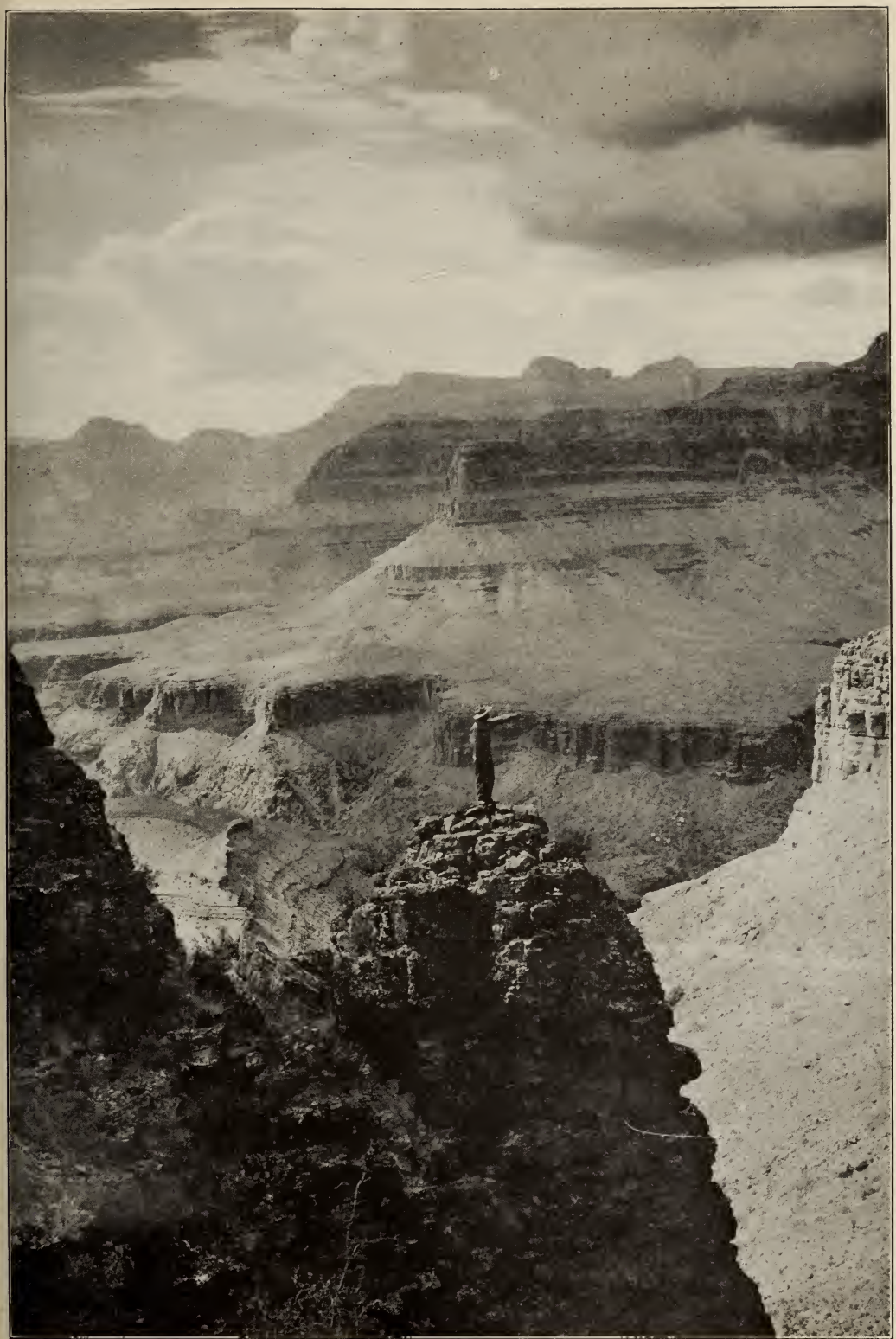
Hermit's Rest, Near the Head of the Hermit Trail to the River



Photograph by U. S. Reclamation Service

"Is Any Fifty Miles of Mother Earth as Fearful, or Any Part as Fearful, as Full of Glory, as Full of God?"—Joaquin Miller

Photograph by Fred Harvey

VIEW FROM LIPAN POINT, OVERLOOKING CONFLUENCE OF LITTLE COLORADO RIVER AND A SECTION OF THE PAINTED DESERT

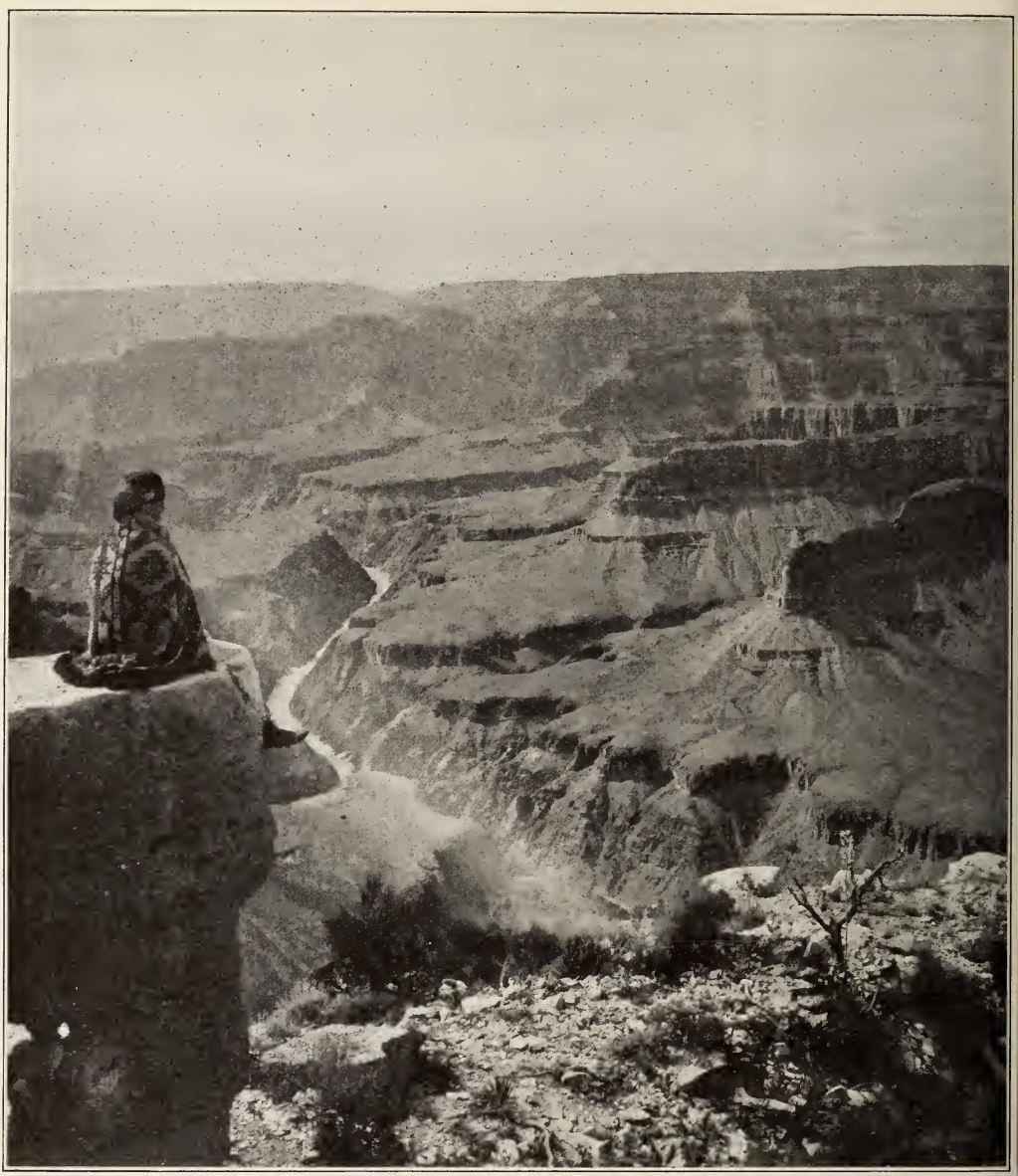
PAINTED IN MAGIC COLORS

THE blues and the grays and the mauves and the reds are second in glory only to the canyon's size and sculpture. The colors change with every changing hour. The morning and the evening shadows play magicians' tricks.

"It seems like a gigantic statement for even Nature to make all in one mighty stone word," writes John Muir. "Wildness so Godful, cosmic, primeval, bestows a new sense of earth's beauty and size. . . . But the colors, the living, rejoicing colors, chanting morning and evening in chorus to heaven! Whose brush or pencil, however lovingly inspired, can give us these? In the supreme flaming glory of sunset the whole canyon is transfigured, as if the life and light of centuries of sunshine stored up in the rocks was now being poured forth as from one glorious fountain, flooding both earth and sky."

Photograph by Fred Harvey

NEAR THE BOTTOM OF THE CANYON, SHOWING HERMIT CAMP AT THE FOOT OF A LOFTY MONUMENT



Photograph by H. T. Cowling

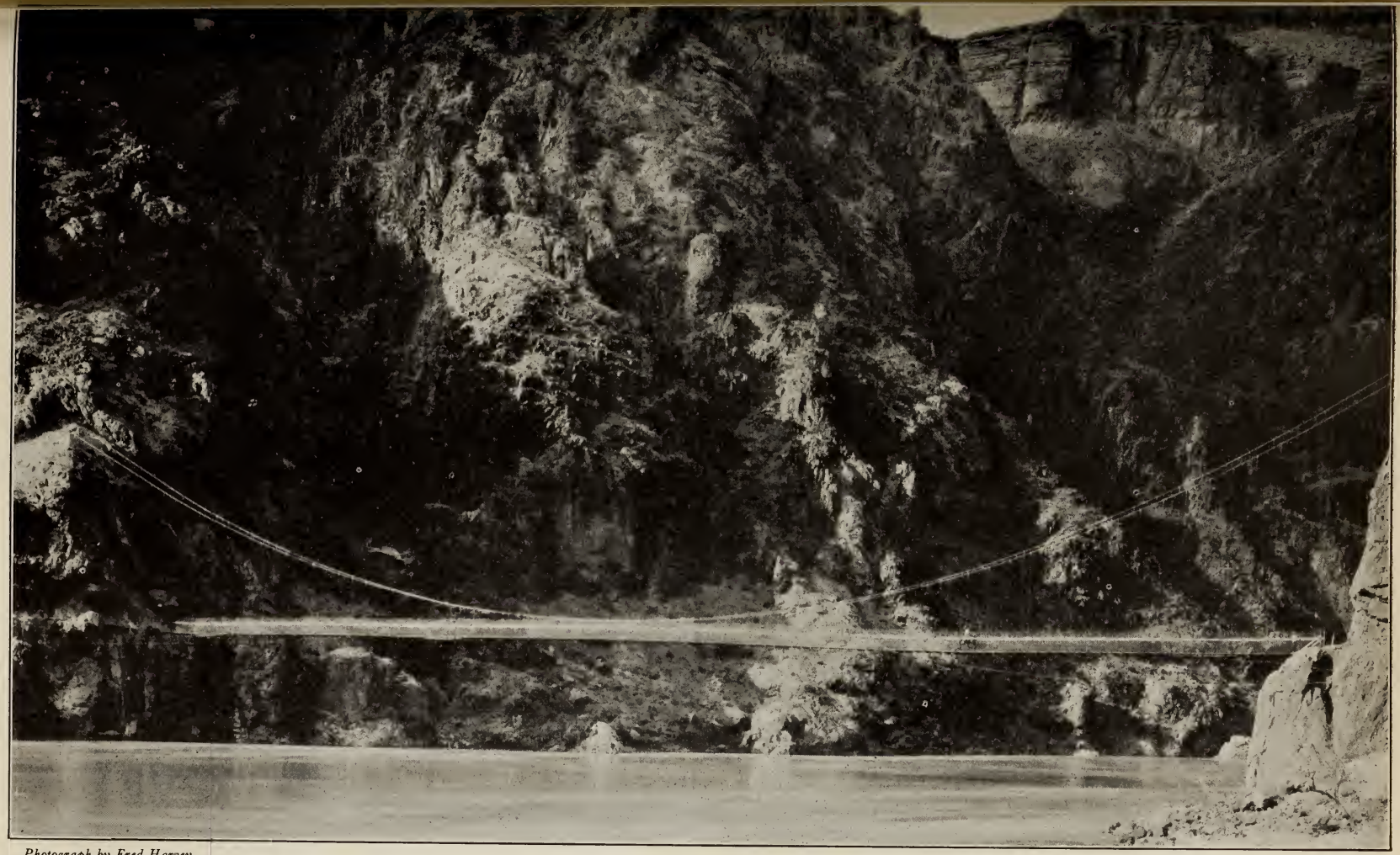
THE PROFOUND ABYSS

ROMANTIC INDIAN LEGEND

THE Indians believed the Grand Canyon the road to heaven.

A great chief mourned the death of his wife. To him came the god Ta-vwoats and offered to prove that his wife was in a happier land by taking him there to look upon her happiness. Ta-vwoats then made a trail through the protecting mountains and led the chief to the happy land. Thus was created the canyon gorge of the Colorado.

On their return, lest the unworthy should find this happy land, Ta-vwoats rolled through the trail a wild, surging river. Thus was created the Colorado.



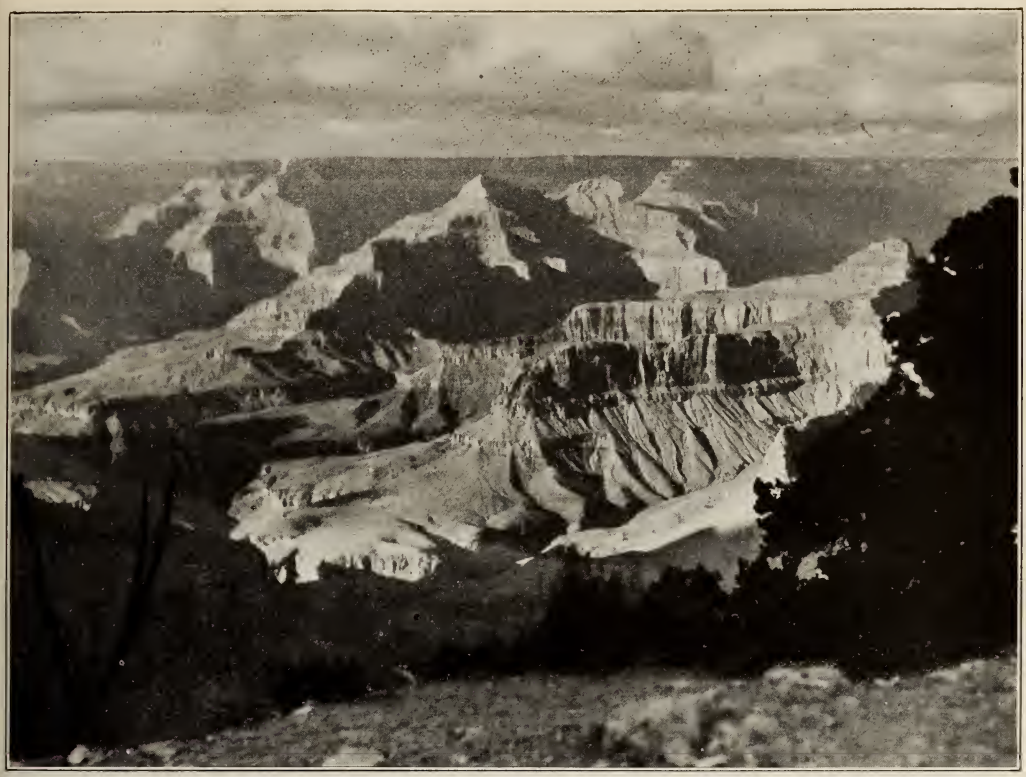
Photograph by Fred Harvey

KAIBAB SUSPENSION BRIDGE

Built by the National Park Service to span the Colorado River at the foot of the Kaibab Trail

Copyright by Fred Harvey

HOPI HOUSE AT EL TOVAR, REPRODUCED FROM AN ANCIENT HOPI COMMUNITY DWELLING



Photograph by Fred Harvey

When Clouds and Canyon Meet and Merge

MASTERPIECE OF EROSION

THE rain falling in the plowed field forms rivulets in the furrows. The rivulets unite in a muddy torrent in the roadside gutter. With succeeding showers the gutter wears an ever-deepening channel in the soft soil. With the passing season the gutter becomes a gully. Here and there, in places, its banks undermine and fall in. Here and there the rivulets from the field wear tiny tributary gullies. Between the breaks in the banks and the tributaries irregular masses of earth remain standing, sometimes resembling mimic cliffs, sometimes washed and worn into mimic peaks and spires.

Such roadside erosion is familiar to us all. A hundred times we have idly noted the fantastic water-carved walls and minaretted slopes of these ditches. But seldom, perhaps, have we realized that the muddy roadside ditch and the world-famous Grand Canyon of the Colorado are, from nature's standpoint, identical; that they differ only in soil and size.

The arid States of our great Southwest constitute an enormous plateau or table-land from four to eight thousand feet above sea level.

Rivers gather into a few desert water systems. The largest of these is that which, in its lower courses, has, in unnumbered ages, worn the mighty chasm of the Colorado.

Copyright by Fred Harvey

SUNSET FROM PIMA POINT. "PEAKS WILL SHIFT AND GLOW, WALLS DARKEN, CRAGS TAKE FIRE, AND GRAY-GREEN MESAS, DIMLY SEEN, TAKE ON THE GLEAM OF OPALESCENT LAKES."—HAMLIN GARLAND

Photograph by Putnam & Valentine

FROM GRAND VIEW. "BUT WAIT! THE CLOUDS AND THE SUNSET, THE MOONRISE AND THE STORM, WILL TRANSFORM IT INTO A SPLENDOR NO MOUNTAIN RANGE CAN SURPASS."—HAMLIN GARLAND

The Lifting Mists Disclose the Gorgeous Pattern of the Opposite Rim

Photograph by U. S. Reclamation Service

THE LOOKOUT AT THE HEAD OF THE BRIGHT ANGEL TRAIL NEAR EL TOVAR

Photograph by U. S. Reclamation Service

WAITING FOR THE SIGNAL TO START DOWN BRIGHT ANGEL TRAIL

One may descend to the river's edge and back in one day by this trail

Copyright by Fred Harvey

THE CELEBRATED JACOB'S LADDER ON THE BRIGHT ANGEL TRAIL

The photograph shows how broad and safe are the Grand Canyon trails. There is no danger in the descent

POWELL'S GREAT ADVENTURE

THE Grand Canyon was the culminating scene of one of the most stirring adventures in the history of American exploration.

For hundreds of miles the Colorado and its tributaries form a mighty network of mighty chasms which few had ventured even to enter. Of the Grand Canyon, deepest and hugest of all, tales were current of whirlpools, of hundreds of miles of underground passage, and of giant falls whose roaring music could be heard on distant mountain summits.

The Indians feared it. Even the hardiest of frontiersmen refused it.

It remained for a geologist and a school-teacher, a one-armed veteran of the Civil War, John Wesley Powell, afterwards director of the United States Geological Survey, to dare and to accomplish.

This was in 1869. Nine men accompanied him in four boats.

There proved to be no impassable whirlpools in the Grand Canyon, no underground passages, and no cataracts. But the trip was hazardous in the extreme. The adventurers faced the unknown at every bend, daily—sometimes several times daily—embarking upon swift rapids without guessing upon what rocks or in what great falls they might terminate. Continually they upset. They were unable to build fires sometimes for days at a stretch.

Three men deserted, hoping to climb the walls, and were killed by Indians—and this happened the very day before Major Powell and his faithful half dozen floated clear of the Grand Canyon into safety.

Photograph by U. S. Geological Survey

TWO OF THE BOATS USED BY MAJOR POWELL IN EXPLORING THE CANYON

Photograph by El Tovar Studio

MEMORIAL ERECTED BY THE DEPARTMENT OF THE INTERIOR TO MAJOR JOHN WESLEY POWELL. IT STANDS ON THE RIM AT SENTINEL POINT

EASY TO REACH AND TO SEE

IT is possible to get a glimpse of the Grand Canyon by lengthening your transcontinental trip one day, but this day must be spent either on the rim or in one hasty rush down the Bright Angel Trail to the river's edge; one can not do both the same day. Two arduous days, therefore, will give you a rapid glance at the general features. Three days will enable you to substitute the newer Kaibab Trail, with a night in the canyon, for the Bright Angel Trail. Four or five days will enable you to *see* the Grand Canyon; but after you see it you will want to live with it awhile. Another interesting trail is the Hermit.

The canyon should be seen first from the rim. Hours, days, may be spent in emotional contemplation of this vast abyss. Navajo Point, Grand View, Shoshone Point, El Tovar, Hopi Point, Sentinel Point, Pima Point, Yavapai Point, the Hermit Rim—these are a few only of many spots of inspiration.

An altogether different experience is the descent into the abyss. This is done on muleback over trails which zigzag steeply but safely down the cliffs.

The hotels, camps, and facilities for getting around are admirable. Your sleeper brings you to the very rim of the canyon.

Courtesy Union Pacific System

THE SUPERB KAIBAB FOREST

THE NORTH RIM

THERE is a remarkable difference between the north and south rim The north rim, a thousand feet higher, is a colder country, clothe with lusty forests of spruce, pine, fir, and quaking aspen, with r suggestion of the desert.

Deer are plentiful on the north rim, and hundreds may be counted on a evening's ride through the Kaibab Forest. A portion of this forest was adde to the national park in 1927.

The forest floor is amazingly clean, with little down timber or shrubb growths. Here and there the dense forest opens out to delightful parkli glades. These are especially the haunt of the deer.

Courtesy Union Pacific System

VIEW FROM BRIGHT ANGEL POINT ON THE NORTH RIM OF THE CANYON

SPECTACULAR VIEWS *from* NORTH RIM

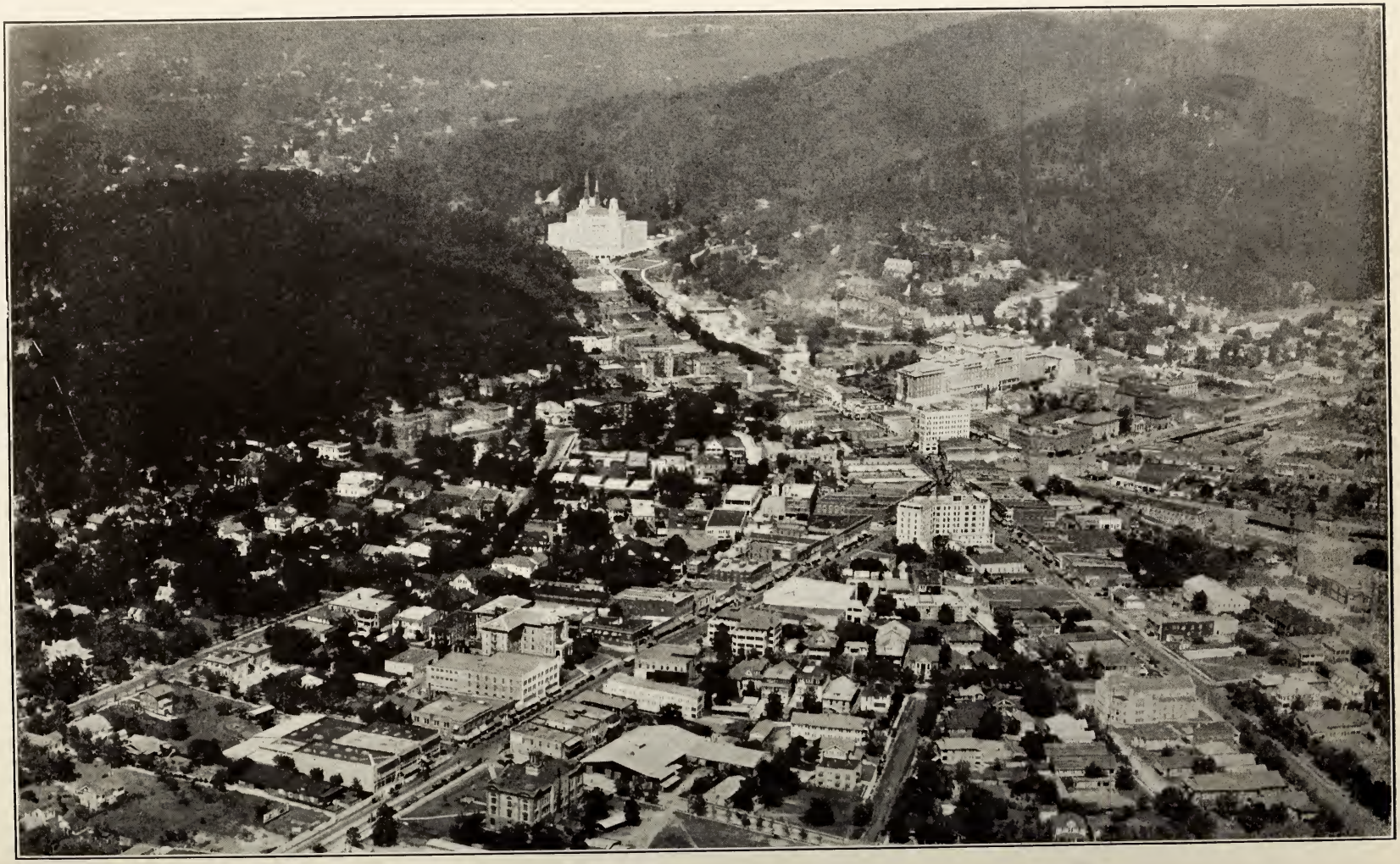
THE views from the north rim are markedly different from those obtained from the south side of the canyon.

From the north one may see close at hand the vast temples which form the background of the south rim's view. One looks down upon them, and on beyond to the distant canyon floor and its gaping gorge, which from most points hides the river from view. Beyond these the south rim rises like a great streaked flat wall. Still farther beyond, miles away, may be seen the dim blue San Francisco Peaks.

It is a spectacle full of sublimity and charm.

Bright Angel Point, extending out in the mighty gorge, affords glorious views. Near this point are located interesting and comfortable lodge accommodations.

From Bright Angel Point the canyon drops away nearly six thousand feet and at this point the gorge is twelve miles across. Excellent trails connect the two rims, and a muleback trip from one side to the other is a never-to-be-forgotten experience.



General View of Hot Springs

HOT SPRINGS OF ARKANSAS
LASSEN VOLCANIC NATIONAL PARK
MOUNT McKINLEY NATIONAL PARK
HAWAII NATIONAL PARK
ZION NATIONAL PARK
MID-CONTINENT PARKS
LAFAYETTE NATIONAL PARK
THE NATIONAL MONUMENTS

Swimming Pool in Auto Camp

Shelter House and Trail Above Iron Spring, Hot Springs Mountain

Entrance to the Hot Springs National Park

THE HOT SPRINGS

FROM the slopes of a picturesque wooded hill among the wild and romantic Ozark Mountains of Arkansas flow springs of hot water used for many generations in the belief that they would alleviate certain bodily ills. Tradition has it that their curative properties were prized by the Indians before the Spanish invasion. The hot springs were probably visited in 1541 by De Soto, who died the following spring on the Mississippi about a hundred miles away. It is tradition that the warring Indian tribes suspended all hostilities at these springs, whose neighborhood they called "The Land of Peace." Government analyses of the waters disclose more than twenty chemical constituents.

The hot springs were reserved for national use in 1832, forty years before the wonders of the Yellowstone first inspired Congress with the idea that scenery was a national asset deserving of preservation for the use and enjoyment of succeeding generations. No esthetic consideration was involved in this early act of national conservation. The motive was to retain these unique waters in public possession to be available to all persons for all time at a nominal cost.

Hot Springs Mountain, from whose sides flow the hot waters, is about 50 miles west by south from Little Rock.

One of the Best Golf Courses in the South

REST, RECUPERATION, *and* RECREATION

HOT SPRINGS has much besides its waters to attract and hold the visitor. It has one of the best and most interesting golf courses in the South. The surrounding country is romantically beautiful. Many miles of woodland trail lead the walker and the horseback rider through pine-scented glades and glens and over mountain tops of unusual charm. There are boating and fishing for the fisherman, tennis for the young folks, ostrich and alligator farms for the curious, and the gayeties of life in big hotels for all.

Hot Springs is not merely a winter resort. Climate and conditions are delightful the year around, as increasing throngs are rapidly discovering. It is above all a place for rest and recuperation. More and more winter visitors are remaining through April and May. But those who remain after March should bring summer clothing, as the temperature then ranges from sixty-five to eighty-five degrees.

The park contains nine hundred and twenty-seven acres, and included in this tract are all the forty-four hot springs. These springs are grouped about the base of Hot Springs Mountain. In front of the springs is Magnolia Row, containing nine complete and luxurious bathhouses. Scattered about the city are ten other bathhouses, all under Government control. A Government free bathhouse and clinic is maintained for the poor and unfortunate.

There are many hotels, the largest having accommodations for a thousand guests, and several hundred boarding houses, many at very moderate prices, throughout the city. Cottages and apartments may be rented for light housekeeping. The Government maintains a picturesque automobile camp for persons who delight in camping.

Photograph by P. J. Thompson

Crater of Lassen Peak After Eruption of 1914

OUR ACTIVE LASSEN VOLCANO

CONGRESS created the Lassen Volcanic National Park in August, 1916. A month later this volcano was again in active eruption; it is the only active volcano in the continental United States. It is situated in northern California, and is one of the celebrated series of peaks, including Mount Baker, Mount Rainier, Mount Hood, Mount Shasta, and what was once Mount Mazama (Crater Lake), in the Cascade Range.

The region is one of extraordinary interest. Lassen Peak is 10,460 feet in altitude. Cinder Cone, which showed some activity a few years ago, has an altitude of 6,907 feet. North Peak, Southwest Peak, and Prospect Peak are prominent elevations in the national park.

Other features of interest are the Devils Half Acre, inclosing hot springs and mud geysers, Bumpass and Morgan Hot Springs, lakes of volcanic glass, and ice caves. There are seven lakes, numerous trout streams, and many majestic canyons. There are also forests of yellow and white pine, fir, and lodgepole.

"On the whole," writes Prof. Douglas W. Johnson, of Columbia University, "it is difficult to imagine a region where the more striking phenomena of nature are developed on a grander scale."

Photograph by W. S. Valentine

LASSEN PEAK IN ERUPTION, JULY, 1914

Mount McKinley, Loftiest Mountain in North America

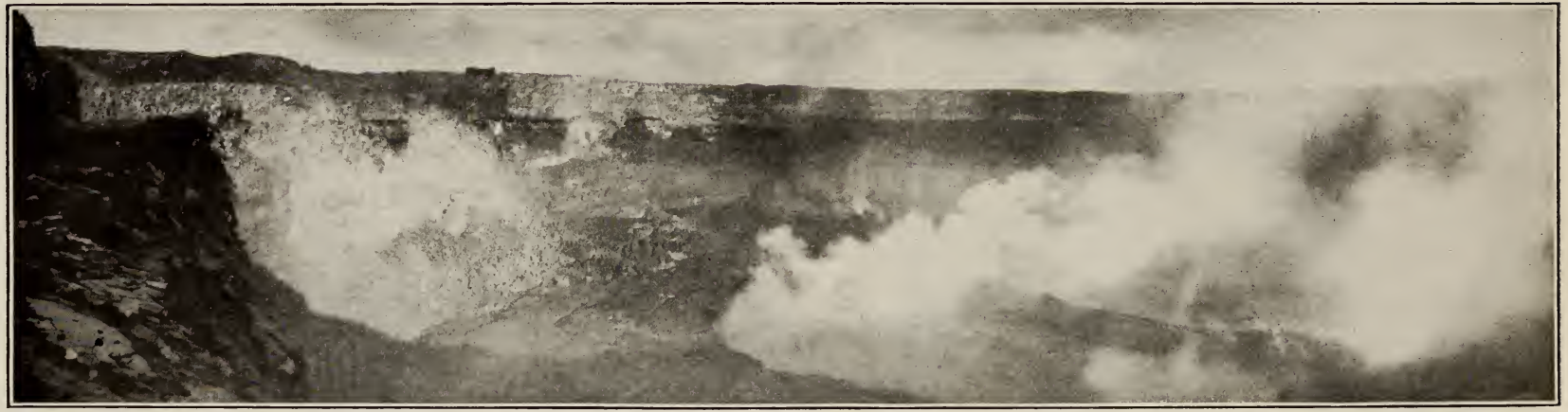
MOUNT McKINLEY GIANT OF MOUNTAINS

MOUNT McKINLEY, a national park since 1917, is the loftiest mountain in America. It towers 20,300 feet above tide. Its gigantic ice-covered bulk rises more than 17,000 feet above the eyes of the observer. It is ice plated 14,000 feet below its glistening summit. This enormous mass is the climax of the great Alaskan Range, which extends, roughly, east and west across southeast central Alaska.

The reservation contains 2,645 square miles. Its northern slopes, which overlook the Tanana watershed with its gold-mining industry, are broad valleys inhabited by enormous herds of caribou. Its southern plateau is a winter wilderness through which glaciers of great length and enormous bulk flow into the valleys of the south. In this national park, which the railroad built by Government into the Alaskan interior has opened to the public, America possesses Alpine scenery upon a titantic scale. In fact, it matches the Himalayas; as a spectacle Mount McKinley even excels their loftiest peaks, for the altitude of the valleys from which the Himalayas are viewed exceeds by many thousand feet that of the plains from which the awed visitor looks up to McKinley's towering height.

Photograph by the Geophysical Laboratory, Carnegie Institution

THE GIGANTIC CRATER OF HALEAKALA, SHOWING SEVERAL OF THE GREAT CINDER CONES WITHIN IT



Photograph by the Geophysical Laboratory, Carnegie Institution

CRATER OF KILAUEA, SHOWING THE POSITION OF THE CELEBRATED LAVA LAKE

Photograph by H. O. Wood, Hawaiian Volcano Observatory

THE CELEBRATED "BALLET DANCER" OF MAUNA LOA, HAWAII

A remarkable photograph of the explosion on the flank of Mauna Loa on May 19, 1916

HAWAII'S SMOKING SUMMITS

THE Hawaii National Park, created in 1916, includes three celebrated Hawaiian volcanoes, Kilauea, Mauna Loa, and Haleakala. "The Hawaiian Volcanoes," writes T. A. Jaggar, director of the Hawaiian Volcano Observatory, "are truly a national asset, wholly unique of their kind, the most famous in the world of science and the most continuously, variously, and harmlessly active volcanoes on earth. Kilauea crater has been nearly continuously active, with a lake or lakes of molten lava, for a century. Mauna Loa is the largest active volcano and mountain mass in the world, with eruptions about once a decade, and has poured out more lava during the last century than any other volcano on the globe. Haleakala is a mountain mass ten thousand feet high, with a tremendous crater rift in its summit eight miles in diameter and three thousand feet deep, containing many high lava cones.

"Haleakala is probably the largest of all known craters among volcanoes that are technically known as active. It erupted less than two hundred years ago. The crater at sunrise is the grandest volcanic spectacle on earth."

The lava lake at Kilauea when active is the most spectacular feature of the national park. It draws visitors from all over the world. It is a lake of molten, fiery lava a thousand feet long, splashing on its banks with a noise like waves of the sea, while great fountains boil through it fifty feet high.

The park also includes gorgeous tropical jungles and fine forests. Sandalwood, elsewhere extinct, grows there luxuriantly. There are mahogany groves.

Photograph by the Geophysical Laboratory, Carnegie Institution

NEAR VIEW OF THE LAVA LAKE OF KILAUEA IN HEAVY SMOKE

Photograph by the Geophysical Laboratory, Carnegie Institution

LAVA FLOW ON FLOOR OF KILAUEA CRATER, SHOWING CURIOUS ROPY FORMATIONS

Photograph by Geophysical Laboratory, Carnegie Institution

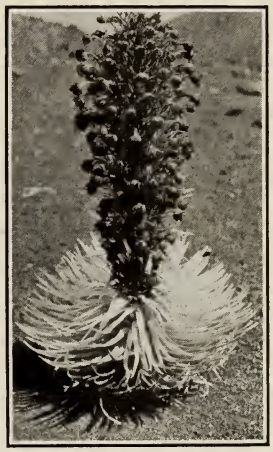
THE KILAUEA LAVA LAKE CLOSE BY. PICTURE TAKEN BY THE LIGHT OF THE LAVA ITSELF DURING A PERIOD OF GREAT ACTIVITY

Photograph by Baker

THE DEVIL'S THROAT ON THE NEW CHAIN OF CRATERS ROAD, THE MOST ACCESSIBLE OF SEVERAL PIT CRATERS

ITS TROPICAL GARDENS

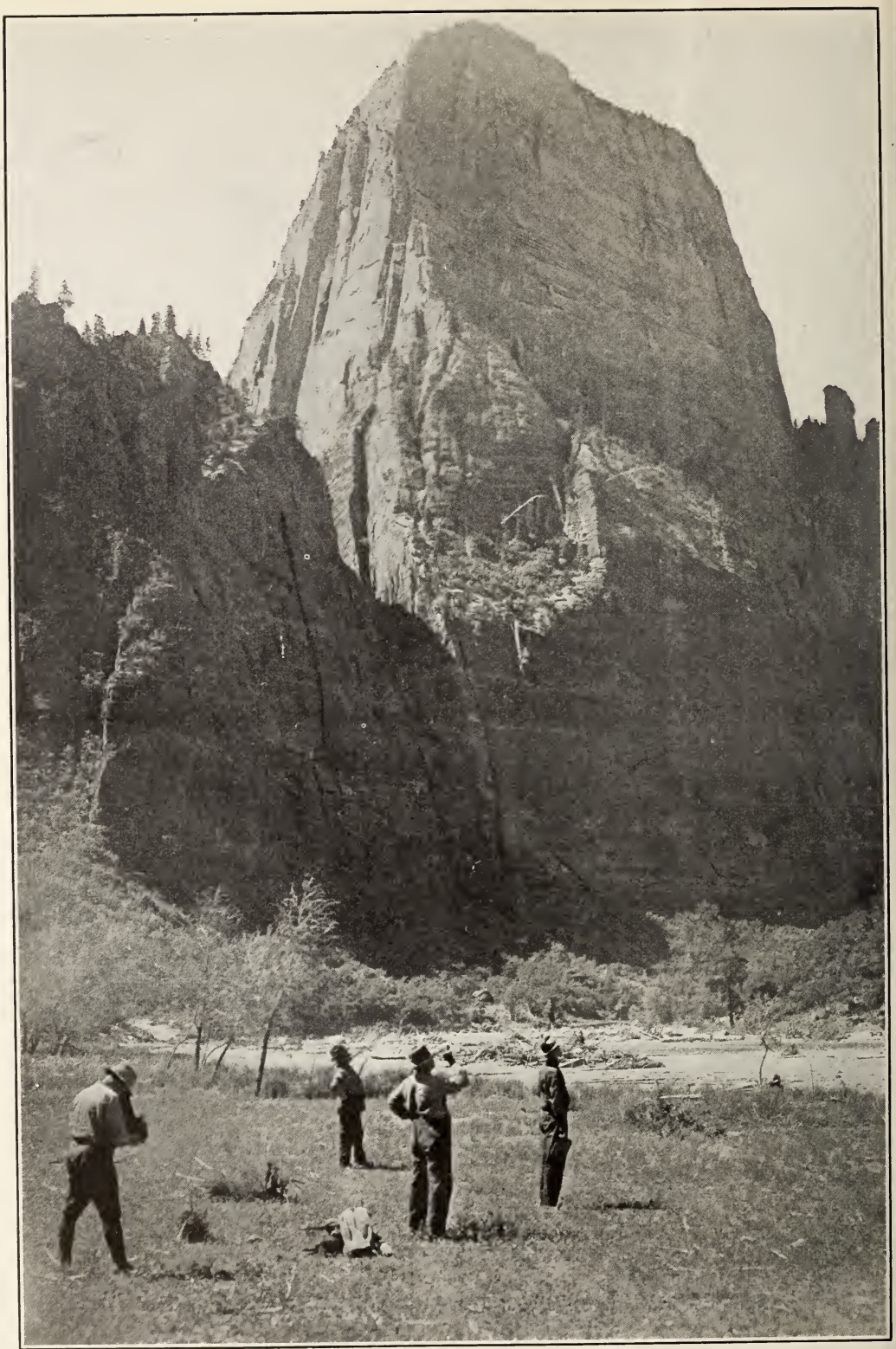
ALTHOUGH the section of the Hawaii National Park on the island of Maui includes only the summit of Haleakala, the sections on the island of Hawaii extend from the summit of Mauna Loa, 13,653 feet in elevation, to Kilauea, and on to the seacoast. "From skiing to surfing in one day" could become an accomplished fact. Besides great lava flows, steaming craters, and countless lava tubes, the park contains forests of koa, which produce Hawaiian mahogany of the glowing lighter tints, ohias with their terra cotta pompons of flowers, fragrant sandalwood; fine roads bordered with fuchsias, gaily colored nasturtiums, and blossoms of ginger; well-kept trails through tropical jungles where tree ferns reach a height of forty feet; lower slopes of brightly colored flowers on tree and shrub. The floral profusion of the islands is revealed by the fact that the brilliant hibiscus appears in Hawaii in fifteen hundred varieties.



THE SILVER SWORD, WHICH GROWS ONLY IN THE CRATER OF HALEAKALA

Sugar cane, of course, is grown commercially on a large scale; and acres upon acres of pineapple clothe the valleys with velvety green. The coconut palm, with its long slanting stem and feathery top, proclaims to the visitor that he is in a strange land.

TREE FERNS RISE TO A HEIGHT OF FORTY FEET



Photograph by Douglas White

EL GOBERNADOR IN ZION CANYON (THE GREAT WHITE THRONE)

This monolith, which rises 3,100 feet from the valley floor, appears brilliant red two-thirds up, then glistening white

ZION NATIONAL PARK

THE latest scenic discovery of America is the canyon of many vivid colors, through which the North Fork of the Virgin River emerges from the shales and sandstones of southwestern Utah to find its way to the Colorado River and the Pacific. Zion Canyon was known to the Mormons as early as 1861. Later it was known to the geologists, who buried graphic descriptions in their scientific texts. It was made a national monument in 1909, but the public did not discover it until 1917. In 1919 it was made a national park. Now it is reached by rail and motor, and ample lodge accommodations and a free public automobile camp afford comfort for all comers.

Zion Canyon is in truth the Rainbow of the Desert. Its carved cliffs are quite as high and its conformation not dissimilar to those of the Yosemite Valley. But instead of granite, its precipices are of sandstone stratified in brilliant contrasts. Most of its cliffs are gorgeously red two-thirds up, and glistening white above; and some of these white-topped monsters are capped again in crimson. In places the white is streaked across with crimson bands like a Roman sash.

Photograph by J. Reed Jones

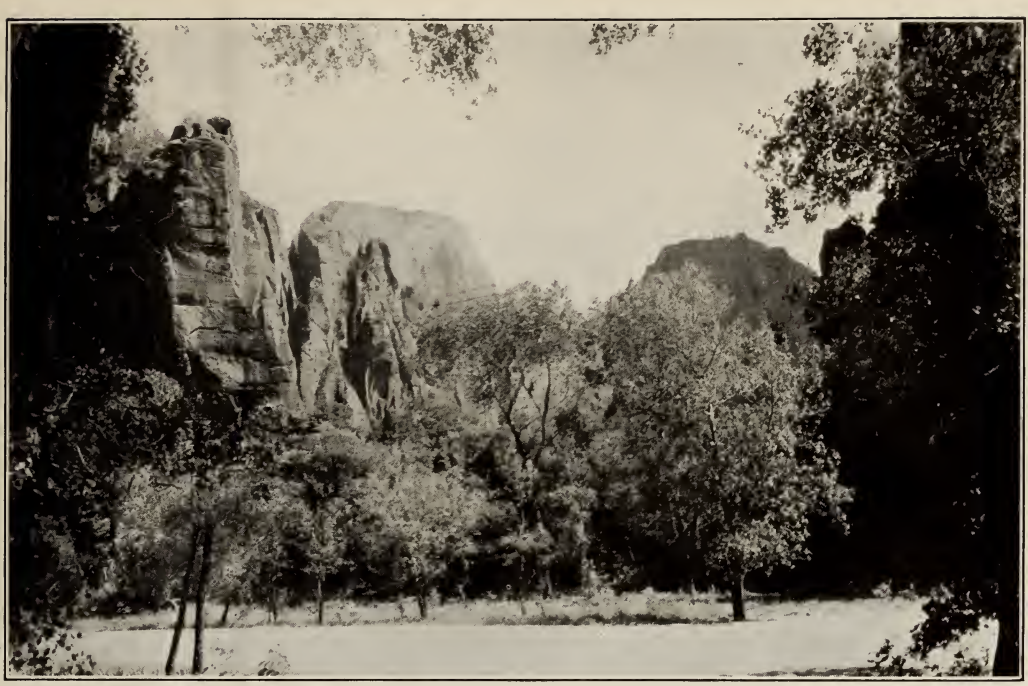
ZION LODGE

81741°—28——16

Often the White Tops of These Fairy Cliffs Are Streaked with Vermilion

Photograph by Willis T. Lee

Where the Canyon Narrows



Copyright J. Reed Jones

THE GREAT WHITE THRONE AND ANGELS LANDING FROM THE TEMPLE OF SINEWAVA

THE THREE PATRIARCHS—VERMILION TWO-THIRDS UP, WITH WHITE SUMMITS

MID-CONTINENT PARKS

THE WIND CAVE NATIONAL PARK

THE BLACK HILLS of southwestern South Dakota, scene of Custer's first stand, famous for many years for Indian fights and frontier lawlessness, contain a limestone cave of large size and interesting decoration. It is called Wind Cave because of the strong currents of air which alternate in and out of its mouth.

The walls and ceilings of the various passages and chambers which constitute the cave are covered with the formations common to most caves. The park is also a game preserve of unusual merit.

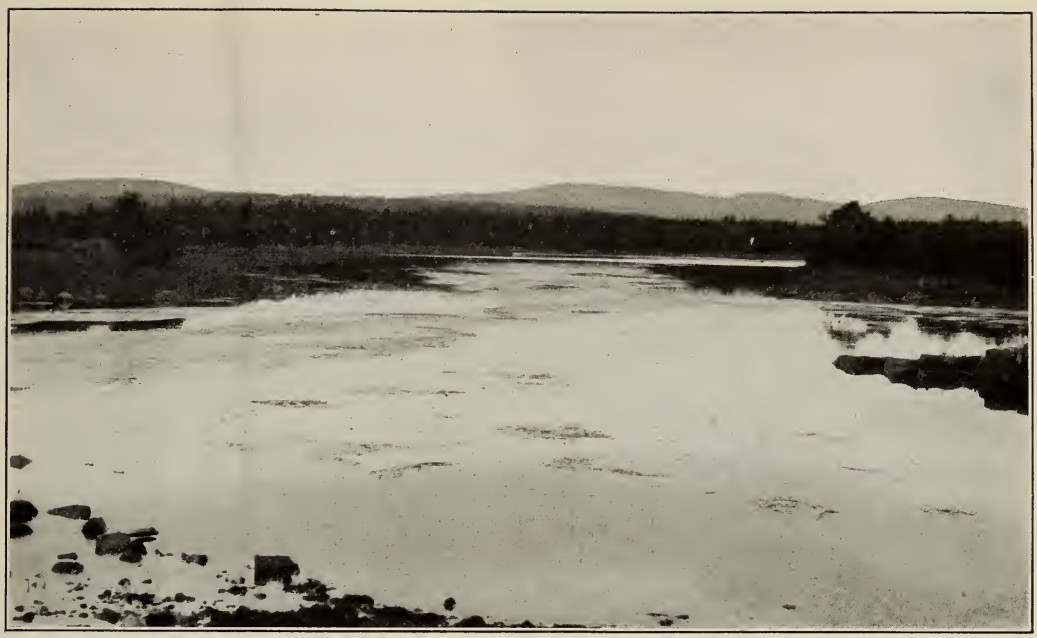
THE PLATT NATIONAL PARK

SOUTHERN Oklahoma's medicinal springs were conserved for public use in 1906 by the creation of the Platt National Park. Sulphur springs predominate, but there are bromide and other springs of medicinal value, besides several fine springs nonmineral in character. Altogether they have an approximate discharge of nearly five million gallons daily.

Many thousands visit these springs every year. The country is one of great charm and is notable for its bird life. The waters are bottled and shipped to many parts of the country.

SULLYS HILL PARK

THIS reservation is on the shore of Devils Lake, North Dakota, within two miles of the well-known Fort Totten Indian School. It is admirably adapted to the purposes of a game preserve, for which Congress has made appropriations.



A Tidal Reach at Sundown

LAFAYETTE NATIONAL PARK

WHERE SEA AND MOUNTAIN MEET

THE National Park Service is represented on the Atlantic coast by the Lafayette National Park in Maine. It includes the splendid grouping of mountains which begins a mile south of Bar Harbor and covers the southern and western portions of Mount Desert Island. The reservation is girt with ocean-side drives and surrounded by summer resorts. The splendid lake-studded lands which compose it were contributed or purchased by public-spirited citizens and given to the Nation in 1916. Congress made it a national park in 1919.

Lafayette offers a marked contrast to the national parks of the West. It is the oldest part of continental America. Its granites were worn by the frosts, the rains, and the waves many millions of years before the Rockies and the Sierras emerged from the prehistoric sea. Its deciduous forests rank with the finest of the Appalachian region.

It is the only spot on our Atlantic coast where mountain and seashore intimately mingle; the rocky coast of New England is nowhere nobler than here. From the viewpoints of its crags and slopes ocean and lake combine.

The historical associations of Lafayette National Park are among the oldest of America, Champlain having landed there in 1604.

Surf on the Ocean Drive

Outlet to the Tarn

Boating on the Placid Waters of Valley Cove

Motor Camping in Lafayette Park

Great Head, Marking Entrance to Frenchman's Bay

The Spring Road in Autumn

Photograph by H. C. Tibbitts

IT IS ONE OF THE NOBLEST FORESTS OF REDWOOD SAVED FROM THE AX

Photograph by J. K. Piggott

A Glimpse of the Beautiful Muir Woods

IN THE FOREST PRIMEVAL

WITHIN ten miles of the city of San Francisco, in Marin County, California, lies one of the noblest forests of primeval Redwood in America. That it stands to-day is due first to the fact that its outlet to the sea instead of to San Francisco Bay made it unprofitable to lumber in the days when redwoods grew like grain on California's hills.

The Muir Woods National Monument contains over four hundred acres. Interspersed with the superb Redwood, the Sequoia sempervirens, sister to the Giant Sequoia of the Sierra, are many fine specimens of Douglas fir, madrona, California Bay, and mountain oak. The forest blends into the surrounding wooded country. It is essentially typical of the redwood growth, with a rich stream-watered bottom carpeted with ferns, violets, oxalis, and azalea.

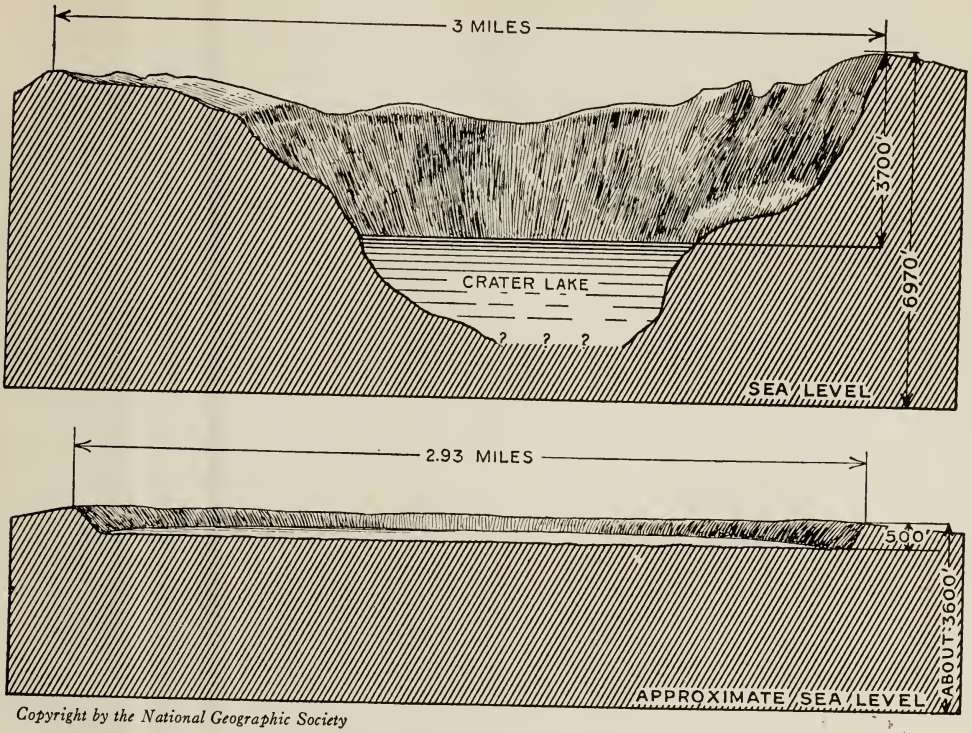
Many of the redwoods are magnificent specimens and some have extraordinary size. Cathedral Grove, and Bohemian Grove, where the famous revels of the Bohemian club were held before the club purchased its own permanent grove, are unexcelled in luxuriant beauty.

This splendid area of forest primeval was named by its donors, Mr. and Mrs. William Kent, in honor of the celebrated naturalist of the Sierra, John Muir. It is so near San Francisco that thousands are able to enjoy its cathedral aisles of noble trees.

Copyright by the National Geographic Society

MOUNT KATMAI AS IT APPEARS TO-DAY. THE WHITE LINE SHOWS ITS ORIGINAL CONTOUR BEFORE THE STUPENDOUS ERUPTION OF JUNE, 1912

KATMAI'S STEAMING VENTS



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THE KATMAI CRATER (UPPER) COMPARED WITH KILAUEA CRATER (LOWER)

ONE of the greatest explosive volcanic eruptions of recent times blew several cubic miles of material out of Mount Katmai, on the southern shore of Alaska, in June, 1912. It left a great gulf where once the summit reared, and in its bottom a crater lake of unknown depth. A few miles away, across the divide, lies a group of valleys from which burst many thousands of vents of superheated vapors. The greatest of these has been named the "Valley of Ten Thousand Smokes."

This remarkable volcanic region, to explore which the National Geographic Society has sent five expeditions, has no parallel elsewhere to-day. It is a veritable land of wonders. In the valley the ground in many places is too hot for walking. In others one may camp comfortably on the coldest nights in a warm tent and cook one's breakfast on a steaming crack outside. The volume is beyond belief. A few feet below the surface, the temperature of the vents is often excessively high. Once the Yellowstone geyser basins probably resembled the "Valley of Ten Thousand Smokes," and a few hundred thousand years from now this valley may become a geyser basin greater than Yellowstone's.

The explosion which wrecked Mount Katmai was heard at Juneau, seven hundred and fifty miles away. Its dust fell at Ketchikan, nine hundred miles away. Its fumes were smelled at Vancouver Island, fifteen hundred miles away.

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SUPPER TIME IN THE "VALLEY OF TEN THOUSAND SMOKES"

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DOWN THE STEAMING SURFACE OF FALLING MOUNTAIN ROLL MASSES OF ROCKS OF ALL SIZES

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FOLLOWING THE GREAT ERUPTION, A VAST QUANTITY OF PASTY LAVA ISSUED FROM THE VENT

Montezuma Castle

MONTEZUMA CASTLE NATIONAL MONUMENT

THIS remarkable relic of a prehistoric race is the principal feature of a well-preserved group of cliff dwellings in the northeastern part of Yavapai County, Arizona, known as the Montezuma Castle National Monument. The unique position and size of the ruin gives it the appearance of an ancient castle; hence its name.

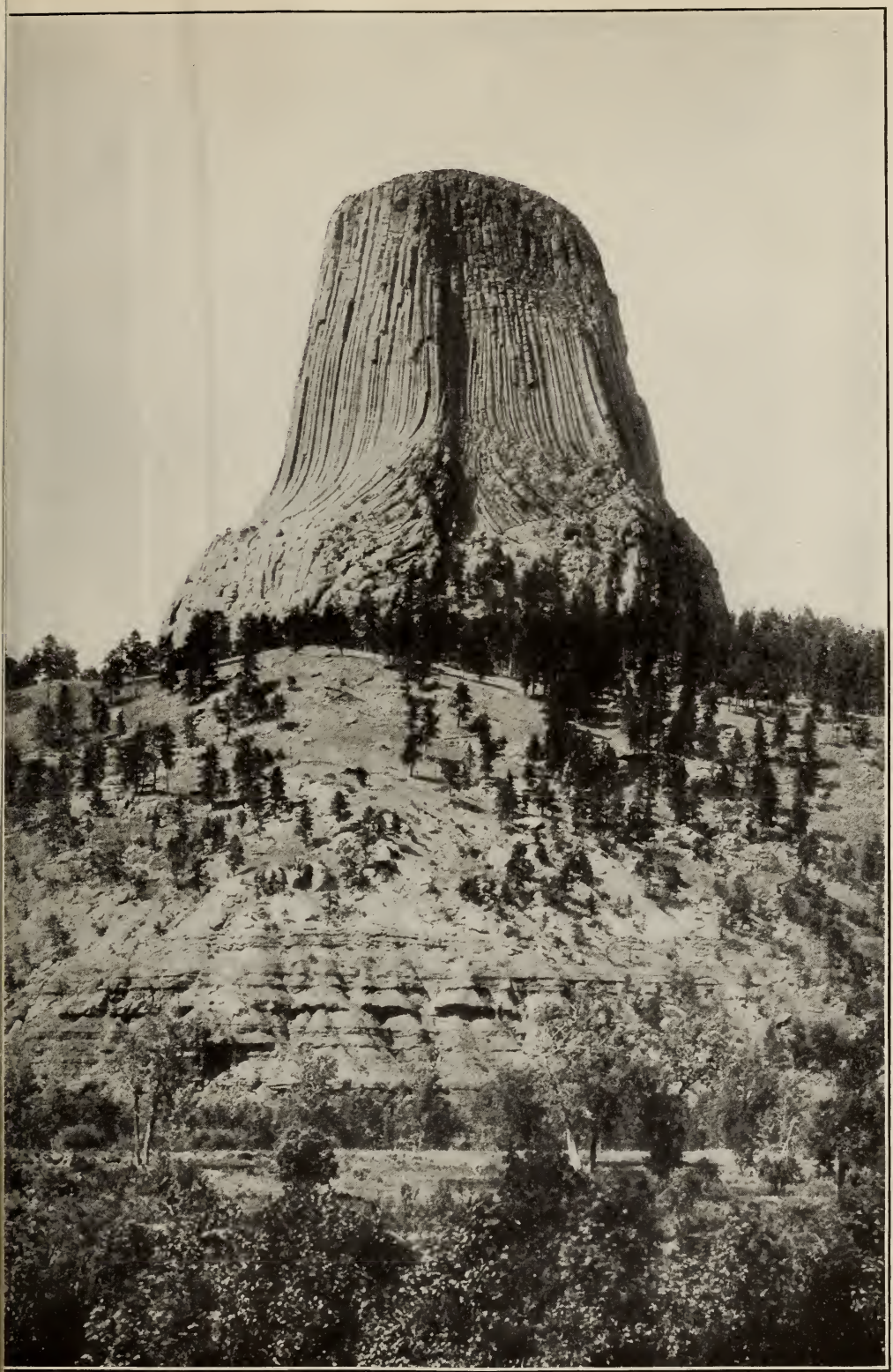
The structure is about fifty feet in height by sixty feet in width, built in the form of a crescent, with the convex part against the cliff. It is five stories high, the fifth story being back under the cliff and protected by a masonry wall four feet high, so that it is not visible from the outside. The walls of the structure are of masonry and adobe, plastered over on the inside and outside with mud.

DEVILS TOWER NATIONAL MONUMENT

THIS extraordinary mass of igneous rock is one of the most conspicuous features in the Black Hills region of Wyoming.

The tower is a steep-sided shaft rising six hundred feet above a rounded ridge of sedimentary rocks, about six hundred feet high, on the west bank of the Belle Fourche River. Its nearly flat top is elliptical in outline. Its sides are strongly fluted by the great columns of igneous rock, and are nearly perpendicular, except near the top, where there is some rounding; and near the bottom, where there is considerable outward flare. The tower has been scaled in the past by means of special apparatus, but only at considerable risk.

The great columns of which the tower consists are mostly pentagonal in shape, but some are four or six sided.



THE DEVILS TOWER, WYOMING

The Augusta, One of Utah's Four Magnificent Natural Bridges

NATURAL BRIDGES NATIONAL MONUMENT

THE natural bridges for whose preservation this national monument in San Juan County, Utah, was created are understood to be among the largest examples of their kind, the greatest of the three having a height of two hundred and twenty-two feet, and a thickness of sixty-five feet at the top of the arch. The arch is one hundred and twenty-eight feet wide, the span two hundred and sixty-one feet, and the height of the span one hundred and fifty-seven feet. The other two bridges are a little smaller. All occur within about five miles. The whole constitutes a really imposing spectacle.

In the neighborhood are found, in addition to a couple of fine cavern springs and other interesting and scientifically valuable natural curiosities, many prehistoric ruins of cavern and cliff dwellings.

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THE CHACO CANYON NATIONAL MONUMENT

THE Chaco Canyon National Monument preserves remarkable relics of a prehistoric people once inhabiting New Mexico. Here are found numerous communal or pueblo dwellings built of stone, among which is the ruin known as Pueblo Bonito, containing, as it originally stood, twelve hundred rooms. It is the largest prehistoric ruin in the Southwest.

Interesting exploration and excavation work among the ruins has been carried on by the National Geographic Society.

SHOSHONE CAVERN NATIONAL MONUMENT

A FEW miles east of the celebrated Shoshone Dam, in Wyoming, is found the entrance to the picturesque Shoshone Cavern. Some of the rooms are a hundred and fifty feet long and forty or fifty feet high, and all are remarkably encrusted with limestone crystals. The passages through the cavern are most intricate, twisting, turning, doubling back, and descending so abruptly that ladders are often necessary.

COLORADO NATIONAL MONUMENT

THIS area, near Grand Junction, Colorado, is similar to that of the Garden of the Gods at Colorado Springs, only much more beautiful and picturesque. With possibly two exceptions it exhibits probably as highly colored, magnificent, and impressive examples of erosion, particularly of lofty monoliths, as may be found anywhere in the West. These monoliths are located in several tributary canyons. Some of them are of gigantic size; one over four hundred feet high is almost circular and a hundred feet in diameter at base.

LEWIS AND CLARK CAVERN NATIONAL MONUMENT

THE feature of this national monument is a limestone cavern of great scientific interest because of its length and because of the number of large vaulted chambers it contains. It is of historic interest, also, because it overlooks for more than fifty miles the Montana trail of Lewis and Clark.

The vaults of the cavern are magnificently decorated with stalactite and stalagmite formations of great variety of size, form, and color, the equal of, if not rivaling, the similar formations in the well-known Luray caves in Virginia. The cavern has been closed on account of depredations of vandals.

THE DINOSAUR NATIONAL MONUMENT

THE Dinosaur National Monument in northeastern Utah was created to preserve remarkable fossil deposits of extinct reptiles of great size. The reservation contains eighty acres of Jura-Trias rock.

For years prospectors and residents had been finding large bones in the neighborhood, and in 1909 Prof. Earl B. Douglass, of the Carnegie Museum of Pittsburgh, under a permit from the Department of the Interior, undertook a scientific investigation. The results exceeded all expectation. Remains of many enormous animals which once inhabited what is now our Southwestern States have been unearthed in a state of fine preservation. These include complete and perfect skeletons of large dinosaurs.

The chief find was the perfect skeleton of a brontosaurus eighty-five feet long and sixteen feet high which may have weighed, when living, twenty tons.

UNEARTHING THE SKELETON OF A GIANT DINOSAUR OF PREHISTORIC DAYS

RAINBOW BRIDGE NATIONAL MONUMENT

THIS natural bridge is located within the Navajo Indian Reservation, near the southern boundary of Utah, and spans a canyon and small stream which drains the northwestern slopes of Navajo Mountain. It is of great scientific interest as an example of eccentric stream erosion.

Among the known extraordinary natural bridges of the world, this bridge is unique in that it is not only a symmetrical arch below but presents also a curved surface above, thus suggesting roughly a rainbow. Its height above the surface of the water is three hundred and nine feet and its span is two hundred and seventy-eight feet.

The bridge and the neighboring canyon walls are gorgeously clothed in mottled red and yellow. It was first seen by white men in August, 1909, when Professor Byron Cummings, John Wetherill, and William B. Douglass visited it under the guidance of an Indian boy.

THE CASA GRANDE NATIONAL MONUMENT

ONE of the best preserved and most interesting ruins in the Southwest has been preserved in this reservation, which is near Florence, Arizona. The structure was once at least four stories high. Many mounds in the neighborhood indicate that it was one of a large group of dwellings of some importance. The ruin was discovered by the intrepid Jesuit missionary, Father Eusebio Francisco Kino, at the end of the seventeenth century.

THE PAPAGO SAGUARO NATIONAL MONUMENT

WITHIN this national monument, which lies about nine miles east of Phoenix, Arizona, and less than a dozen miles from the Apache Trail, grow splendid examples of characteristic desert flora, including many striking specimens of giant cactus (saguaro) and many other interesting species of cacti, such as the prickly pear and cholla.

EL MORRO NATIONAL MONUMENT

EL MORRO, or Inscription Rock, in western central New Mexico, is an enormous sandstone rock rising a couple of hundred feet out of the plain and eroded in such fantastic form as to give it the appearance of a castle.

The earliest inscription is dated February 18, 1526. Historically the most important inscription is that of Juan de Oñate, a colonizer of New Mexico and the founder of the city of Santa Fe, in 1606. It was in this year that Oñate visited El Morro and carved this inscription on his return from a trip to the head of the Gulf of California. There are nineteen other Spanish inscriptions.

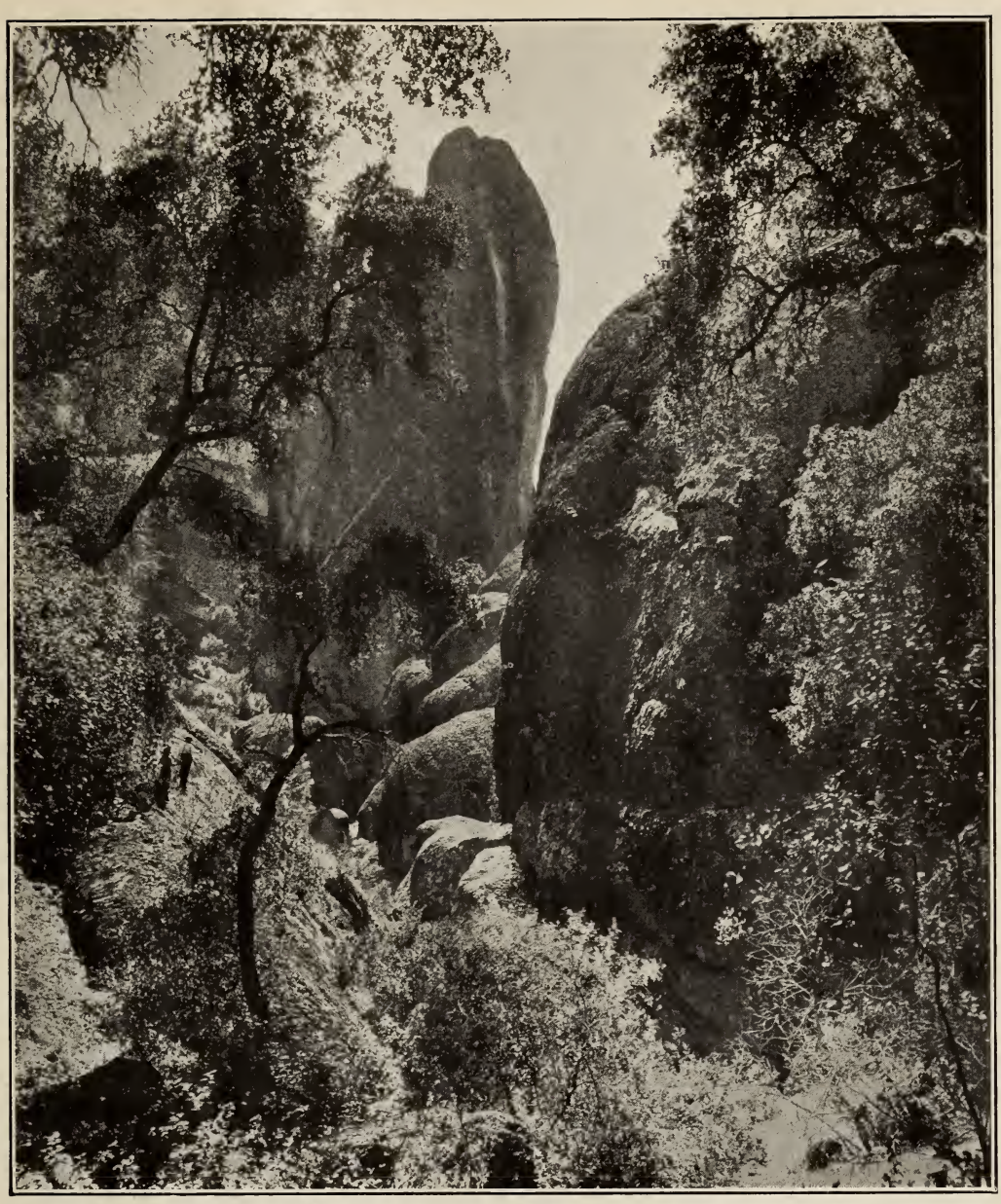
CAPULIN MOUNTAIN NATIONAL MONUMENT

CAPULIN MOUNTAIN is a volcanic cinder cone of recent origin, six miles southwest of Folsom, New Mexico. It is the most magnificent specimen of a considerable group of craters. Capulin has an altitude of eight thousand feet, rising 1,500 feet above the surrounding plain. It is almost a perfect cone.

VERENDRYE NATIONAL MONUMENT

FROM the left bank of the Missouri River, at Old Crossing, North Dakota, rises an impressive eminence from which the great plains west of the Rockies doubtless were first seen by civilized man. Crowhigh Butte is the second highest elevation in the State. It is conserved by presidential proclamation under the title of Verendrye National Monument.

Verendrye, the celebrated French explorer, started from the north shore of Lake Superior sixty years before the Lewis and Clark expedition, passed westward and southwestward into the unknown regions of the plains and the mountains, and, about 1740, stood upon the summit of this striking butte.



The Needles, Pinnacles National Monument

PINNACLES NATIONAL MONUMENT

THE spires, domes, caves, and subterranean passages of the Pinnacles National Monument in San Benito County, California, are well worth a visit. The name is derived from the spirelike formations arising from six hundred to a thousand feet from the floor of the canyon forming a landmark visible many miles in every direction.

A series of caves, opening one into the other, lie under each of the groups of rock. These vary greatly in size, one in particular, known as the Banquet Hall, being about a hundred feet square, with a ceiling thirty feet high.

THE TUMACACORI NATIONAL MONUMENT

THE Tumacacori National Monument in Santa Cruz County, Arizona, was created to preserve a very ancient Spanish mission ruin dating, it is thought, from the latter part of the sixteenth century. It was built by Jesuit priests from Spain and operated by them for over a century.

After the year 1769 priests belonging to the order of Franciscan Fathers took charge of the mission and repaired its crumbling walls, maintaining peaceable possession for about sixty years, until driven out by Apache Indians.

GRAN QUIVIRA NATIONAL MONUMENT

THE Gran Quivira has long been recognized as one of the most important of the earliest Spanish church or mission ruins in the Southwest. It is in central New Mexico. Near by are numerous Indian pueblo ruins, occupying an area many acres in extent, which also, with sufficient land to protect them, was reserved. The outside dimensions of the church ruin, which is in the form of a short-arm cross, are about forty-eight by one hundred and forty feet, and its walls are from four to six feet thick and from twelve to twenty feet high.

NAVAJO NATIONAL MONUMENT

THIS tract encloses three interesting and extensive prehistoric pueblos or cliff-dweller ruins in an excellent state of preservation. These are known as the Betatakin, the Keet Seel, and Inscription House.

Inscription House Ruin, on Navajo Creek, is regarded as extraordinary, not only because of its good state of preservation, but because of the fact that upon the walls of its rooms are found inscriptions written in Spanish by early explorers and plainly dated 1661. This monument is in Arizona.

THE PETRIFIED FOREST OF ARIZONA

THE Petrified Forest National Monument lies in the area between the Little Colorado River and the Rio Puerco, fifteen miles east of their junction. This area is of interest because of the abundance of petrified coniferous trees. It has exceptional scenic features also.

The trees lie scattered about in great profusion; none, however, stands erect in its original place of growth, as in the Yellowstone National Park.

The trees probably at one time grew beside an inland sea; after falling they became water-logged, and during decomposition the cell structure of the wood was entirely replaced by silica from sandstone in the surrounding land.

SITKA NATIONAL MONUMENT, ALASKA

THIS monument reservation is situated about a mile from the steamboat landing at Sitka, Alaska. Upon this ground was located formerly the village of a warlike tribe—the Kik-Siti Indians—where the Russians under Baranoff in 1802 fought and won the "decisive battle of Alaska" against the Indians and effected the lodgment that offset the then active attempts of Great Britain to possess this part of the country. The Russian title thus acquired to the Alexander Archipelago was later transferred to the United States.

A celebrated "witch tree" of the natives and sixteen totem poles, several of which are examples of the best work of the savage genealogists of the Alaska clans, stand sentrylike along the beach.

AZTEC RUIN NATIONAL MONUMENT

AZTEC RUIN, the principal feature of this New Mexico monument, is a large E-shaped structure of pueblo type containing approximately five hundred rooms. The first story of the building is standing, and portions of the second and third stories. The ceilings are supported by large beams, cut and dressed with stone tools, which are interesting exhibits of work done in the Stone Age. The sandstone walls, reasonably plumb and with dressed faces, take high rank as examples of prehistoric masonry.

The plot of ground bearing the ruins was presented to the United States by the American Museum of Natural History through the generosity of Mr. Archer M. Huntington, one of its trustees.

SCOTTS BLUFF NATIONAL MONUMENT

THIS national monument in the State of Nebraska is rich in historic interest. Scotts Bluff, one of the highest known points in the State, was a well-known landmark on the Old Oregon Trail, and along this way passed a vast concourse of the pioneers that trailed overland on their way to settle the Willamette Valley and Puget Sound regions in Oregon and Washington, to hunt for gold in distant California, or to found the Mormon colonies of Utah. In the days of the pony express Scotts Bluff was the scene of many Indian battles. It is estimated that about the middle of the nineteenth century an average of one wagon every five minutes passed through Mitchell Pass, which is located within the boundaries of the present monument.

PIPE SPRING NATIONAL MONUMENT

PIPE SPRING, on the main road between Zion National Park and the North Rim of the Grand Canyon, forms a welcome oasis in the Arizona desert. This spring was famous in the early pioneer life of Utah and Arizona. Here in the early sixties the Mormon Church established a cattle ranch, and the ruined old stone fort they erected, known as Windsor Castle, is the principal feature of the monument.

YUCCA HOUSE NATIONAL MONUMENT

THIS monument was established to preserve the ruin of a prehistoric village in southwestern Colorado. The village is now a cluster of mounds with no sign of a wall rising above their surfaces. On account of the large size and extent of the mounds, it is believed that when excavated they will prove of great archeological interest and educational value. The land upon which the ruins are situated, approximately 10 acres in extent, was donated to the United States Government by Henry Van Kleek, of Denver, Colorado.

The Totem Poles and Other Interesting Formations in Carlsbad Cave

CARLSBAD CAVE NATIONAL MONUMENT

CARLSBAD CAVE, in New Mexico, consists of a series of lofty, spacious chambers and connecting corridors, with alcoves extending off to the sides, that are of remarkable beauty. There is an infinite variety in the size and shape of the stalactites, stalagmites, and other limestone decorations. Although an expedition of the National Geographic Society spent about six months making a detailed study of the cave, it is so huge that its size is still a matter of conjecture.

FOSSIL CYCAD NATIONAL MONUMENT

IT was to protect its large deposits of fossil cycads, fernlike plants of the Mesozoic period, that this area in the Black Hills of South Dakota was made a national monument. These fossil plant beds are among the most interesting yet discovered, with the most perfectly preserved specimens. Scientific investigations show that the cycads, which are of tree-fern type, actually bore flowers in the age when egg-laying monsters were still extant. Many of the fossil tree trunks contain large numbers of unexpanded buds, while in other cases are found fruits that had begun to mature before fossilization set in.

HOVENWEEP NATIONAL MONUMENT

THIS national monument in Utah and Colorado contains four groups of remarkable prehistoric towers, pueblos, and cliff dwellings. In the largest group there are eleven different buildings. The largest of these, Hovenweep Castle, has walls that measure 66 feet long and 20 feet high. Besides towers and great rooms, this building has two circular kivas on the east end identical in construction with those found in the ruins of Mesa Verde National Park.

CRATERS OF THE MOON NATIONAL MONUMENT

THE Craters of the Moon National Monument, in Idaho, is a volcanic region, the most recent example of fissure eruption in the United States. As its name signifies, it closely resembles the surface of the moon when seen through a telescope. Nowhere else in the United States can so many volcanic features be found in so small an area. There is a profusion of cinder cones, craters, and hornitos, and huge black fields of lava spread out for miles. The lava tunnels and caves are especially interesting, with their beautiful blue and red lava stalactites and stalagmites and other unusual formations.

CRATERS AND CONES RISING FROM THE LAVA FIELDS

Courtesy the National Geographic Society

A View of Glacier Bay

GLACIER BAY NATIONAL MONUMENT

THE Glacier Bay region of Alaska contains tidewater glaciers of the first rank in a setting of lofty peaks. Because of the unique opportunity afforded here for the scientific study of glacial action, of the resulting movements and development of flora and fauna, and of certain valuable relics of ancient interglacier forests, a portion of this area was set aside as the Glacier Bay National Monument.

The region also contains a great variety of forest covering consisting of mature area, bodies of youthful trees which have become established since the retreat of the ice, and great stretches, now bare, that will become forested in the course of the next century. These should be preserved in their natural condition. The monument is also of historic interest, having been visited by explorers and scientists since the early voyage of Vancouver in 1794.

WUPATKI NATIONAL MONUMENT

THE Wupatki Monument consists of two tracts of land lying west of the Little Colorado River in Arizona, on which are located interesting red-sandstone pueblos built by the ancestors of the Hopi, one of the most picturesque tribes of Indians in the United States to-day. The buildings were constructed by the Snake family of the Hopi in their migration from the Grand Canyon.

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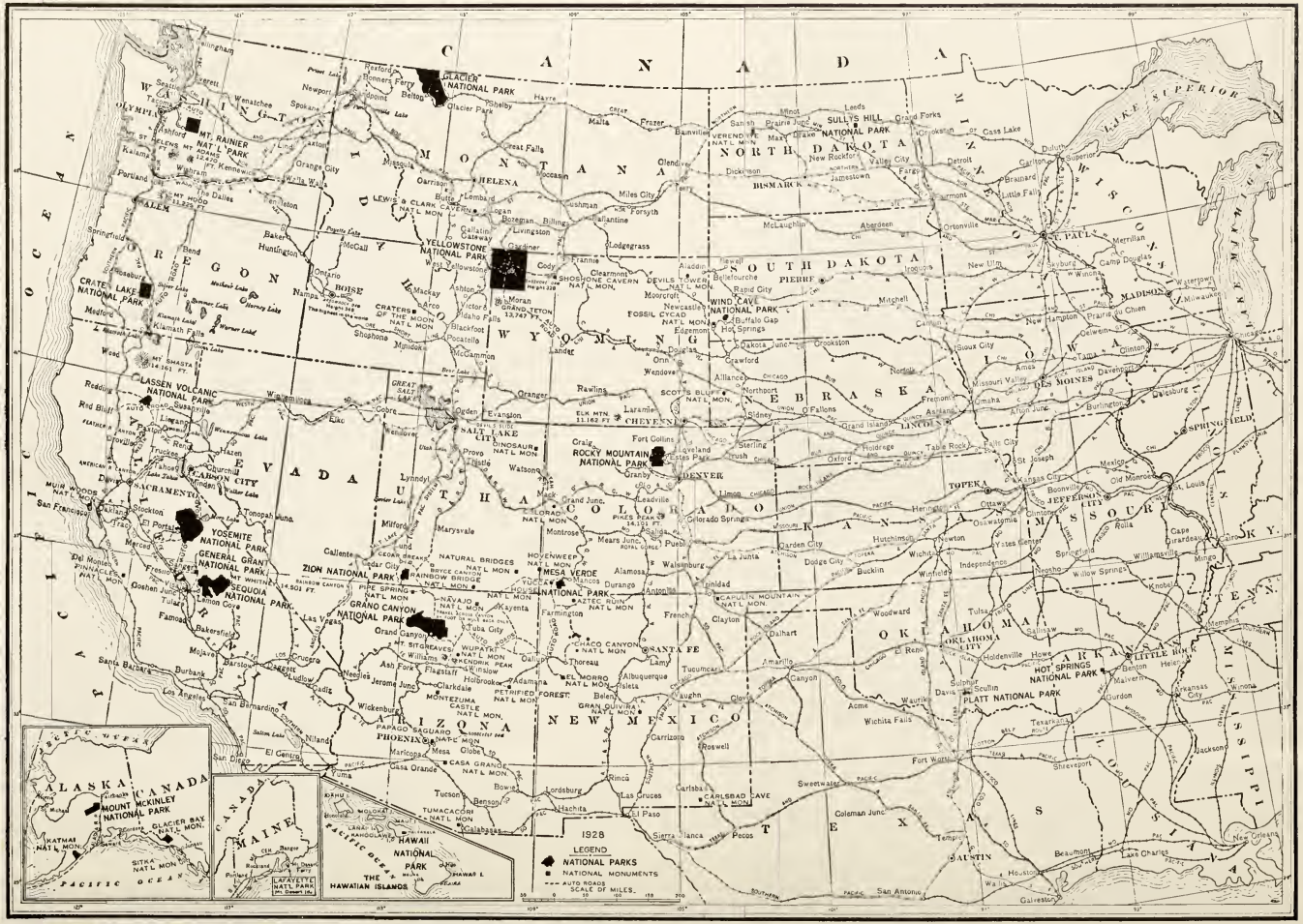

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